ABSTRACT

Eighteen percent of 1,500 shoppers interviewed by telephone in 1971 reported purchasing food in the previous 2 weeks that became "bad" before it should have. Most problems were reported with meat, dairy products, baked goods, and fresh produce.

Shoppers interviewed at selected Ohio retail chainstores before and after an 8-week experimental open-dating program were asked about their satisfaction with foods purchased. The frequency with which shoppers reported instances of purchasing "bad" food was reduced by half after open (uncoded) dates and improved handling practices were introduced. The use of open dates and improved handling practices also reduced in-store product losses.

Results indicated that food date labeling may be beneficial to shoppers because it gives them increased assurance of food freshness and to retailers because it promotes better food handling and stock rotation practices.

Keywords: Food product dating, open dating, consumers, consumer purchasing, retail, grocery stores.

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# PREFACE

USDA's Economic Research Service (ERS) and the Consumer Research Institute (CRI) cooperated on three projects to gather information on consumer attitudes toward freshness in foods and whether open dating would have any effect on consumers' buying practices and on retail store operations.

A national telephone survey conducted by Opinion Research Corporation for CRI in June 1971 was the first project. ERS and USDA's Statistical Reporting Service staff members assisted in designing a questionnaire to measure the extent of shoppers' concern about food freshness. Products included in the later open-dating test were those which the respondents said had not been fresh or had spoiled before they should have. Food shoppers in 1,500 households were interviewed and a discussion of the findings of that survey is presented in part I.

The second project provided data on consumer response to open dating. Twelve stores of an Ohio chain participated in an experimental open-dating test during the summer and fall of 1971. The findings of interviews with shoppers at test stores just before and after the test and again 10 months later are presented in part II. Interviewing, analysis, and findings were the responsibility of CRI.

Part III describes the effect of introduction of open dating on in-store losses in four product categories. Input and loss data were collected by store personnel under the direction of the ERS staff members who did the analysis.

Raymond C. Stokes, Director of the Consumer Research Institute, and Rafael Haddock, Research Associate, handled the research on consumer reactions. William S. Hoofnagle, Deputy Director, and Eileen F. Taylor, Social Science Analyst, Marketing Economics Division, ERS, conducted the research on the economic impact of open dating.

Kroger Company staff members cooperated fully by instituting the suggested experimental procedures in the sample stores and assigning a full-time supervisor to the test program. Use of Kroger as the retail food chain for the survey does not constitute USDA endorsement of this chain over any other one.

CONTENTS

## HIGHLIGHTS

Open (uncoded) dating of food products reduced by 50 percent the incidence of shoppers' complaints about buying spoiled or stale foods. Store losses, in terms of dollar values and packages requiring rehandling, also generally dropped after open dates were used. Thus, dating foods may be advantageous to shoppers--because they reported fewer complaints about freshness--and to retailers--because dating promoted better handling and stock rotation practices.

These findings are based on interviews with nearly 13,000 shoppers and in-store collection of data on product losses before and after the introduction of open dating of selected foods. In an earlier phase of the study, 18 percent of 1,500 shoppers interviewed during a national telephone survey in June 1971 said that in the previous 2 weeks they had purchased some food item that had become "bad" before it should have. Respondents reported problems primarily with perishable and semiperishable foods--meats, dairy products, baked goods, and fresh produce.

To test the effect of date labeling on consumer satisfaction with foods, an experimental open-dating program was set up in selected Ohio retail food chainstores later in 1971. The foods dated were those that had been most often cited as bad in the telephone survey. Pack dates were used on about 600 items in three stores in Middletown, Ohio; pull dates (dates after which a product cannot be sold) were used on the same items in five stores in nearby Hamilton. The 12,975 shoppers who participated in the study were asked about the freshness of foods purchased before and after the use of open dates. Although introduction of either pack or pull dates on foods reduced by about half the incidence of consumers' reports of purchasing spoiled or stale foods, reduction in instances of spoilage was reported for both open-dated and nonopen-dated food. Thus, some of the improvement may have been due to a change in consumer attitude toward the store management. Because date information was available for some foods, customers may have had more confidence in the freshness of foods purchased.

Product losses in the sample stores generally were lower during the 8-week open-dating test than they had been during the 4-week pretest period. Losses, in terms of dollar values and number of packages rehandled, were considerably lower for meats and produce. Decline in product loss occurred not only in stores where open dates were used but also in two control stores where improved handling practices were stressed. This would indicate that better attention to rotation and the recordkeeping made necessary by the experiment in all sample stores had more impact on product losses than the mere use of open dates.

Sales data for the sample stores and others in the same division of the cooperating chain showed no indication of increased shopper patronage after the open-dating program was introduced.

# FOOD DATING: SHOPPERS' REACTIONS AND THE IMPACT ON RETAIL FOODSTORES

Economic Research Service
Marketing Economics Division*

## INTRODUCTION

Open dating of food products, especially perishable and semiperishable items, is currently receiving a great deal of attention. Although food manufacturers have dated products for many years, the date (and certain other manufacturing information) has usually appeared in some form of code. Today, there is a growing demand that the date appear uncoded. Advocates of uncoded, or open, dating argue that such information will help reduce the sale of spoiled or stale food. They say it will help consumers to find fresher food as well as help foodstores rotate the products on their shelves.

More than 75 pieces of legislation requiring the open dating of food items have been introduced or are currently pending at local, State, and Federal levels. Local ordinaces are now in effect in New York City and Dade County, Fla.

At the same time, more than 60 retail food chains, comprising some 15,000 foodstores nationwide, have introduced voluntary open-dating systems on some of their perishable and semiperishable products.

Despite these developments, little factual information has been available concerning product freshness and consumer experiences with spoiled or stale foods. To develop such information, the Consumer Research Institute and the U.S. Department of Agriculture undertook a three-part study. The study's goals were to determine:

(1) Whether consumers report problems regarding the purchase of spoiled or stale food; and, if so, in which categories such experiences occur most frequently;

(2) Whether the introduction of an open-dating system into a supermarket will reduce the frequency with which consumers report experiences with stale or spoiled food; and

(3) The economic impact of open-dating on retail store operations.

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* See preface for names of authors and organizations that participated in the development of this report.

## PART I.--REPORTED SHOPPER ATTITUDES AND EXPERIENCES

The first phase of the study was a telephone survey conducted in June 1971 to determine consumer experience with spoiled or stale food products. A probability sample was used with a universe consisting of all U.S. residents 18 years of age or over who lived in households with a telephone and were the principal grocery shoppers for their households. A random selection of phone numbers was drawn and several random numbers were substituted for the last two digits of each selected number (thereby including unlisted numbers in the sample). A sample of 1,531 shoppers was then interviewed (see app. A for a discussion of the survey methodology and the questions asked).

The information obtained fell into five basic categories: (1) The frequency with which consumers reported purchasing spoiled or stale food; (2) the types of spoiled food most frequently encountered; (3) consumer attitudes and reactions toward food spoilage; (4) consumer awareness of stores' and manufacturers' food guarantees; and (5) consumer awareness of and attitudes toward open dating.

### Consumer Purchase of Stale Food

Respondents were asked whether they had,.during the 2 weeks 1/ before the survey, purchased any food which had spoiled or become stale sooner than would have been expected under normal circumstances. As indicated in appendix table B-1, approximately 18 percent (281) of the 1,531 respondents reported one or more such instances of food spoilage. 2/ A total of 377 instances was reported.

### Categories in Which Food Spoilage Was Reported

A main objective of the survey was to determine food categories for which consumers report the highest spoilage incidence rate, so that these categories could be included in the subsequent in-store open-dating experiment. To achieve

1/ This is an arbitrary selection of a time period, based upon a compromise involving accuracy of human memory over time and the need to obtain a sufficiently large report of incidence of food spoilage to identify major problem categories.

2/ These figures represent entirely subjective evaluations by the respondents and imply previous experience with food, expectations and attitudes toward food freshness, attitudes toward grocery stores, and perhaps attitudes toward the food industry. No effort was made to ascertain objectively whether the food actually was stale or spoiled.

this, consumers who reported encountering spoiled or stale food during the 2 weeks before the interview were asked to name the specific food or foods. They were also asked (1) the form of the food (canned, frozen, fresh); (2) how they knew it was spoiled or stale; (3) the number of days which had elapsed before they noticed that it had spoiled; (4) whether the item was bad when purchased or if it spoiled while being stored in the home; and (5) what the consumer did with the item (used it, took it back, threw it away).

As indicated below, most spoiled or stale foods were perishables--fresh meats, fresh dairy products, baked goods, and fresh produce (see app. tables B-2 through B-4 for more detail):

| Food category | Percent of total sample reporting food spoilage 1/ |
|---|---|
| Fresh dairy products | 5.6 |
| Fresh vegetables | 5.1 |
| Fresh meat, poultry, and fish | 4.2 |
| Fresh fruit | 3.5 |
| Processed meat | 2.5 |
| Baked goods | 2.1 |
| All other | 1.8 |

1/ Sample size = 1,531 respondents. Percentages add to more than 18 because some respondents reported spoilage in more than 1 category.

The "all other" category included 27 cases: 11 instances of potato chips and other snack foods, two of cereals, and one each of jelly, salad oil, frozen food, frozen pastry, pickles, cookies, dates, doughnuts, and delicatessen items of coleslaw, hot tamales, prepared macaroni, prepared noodles, prepared gelatin, and pizza.

## Reaction Toward Food Spoilage

About one-half of the spoiled food incidents reported were noticed by the consumer on the day of purchase. The rest were discovered after the item had been stored for 1 or more days in the home. While data varied for the different product categories, a consumer encountering a spoiled or stale food product was more apt to throw it away than return it to the store (app. table B-5). Many items, while thought to be stale, were reported to have been consumed.

All respondents were asked whether they had discarded any food item (other than leftovers) during the previous 2 weeks because they "thought" they had kept the item too long, even though the item may still have been good. As appendix table B-6 indicates, 29 percent of the entire sample said that they had. Specific foods which these respondents said they had discarded are shown in appendix table B-7.

## Frequency of Purchase of Stale Food During the Year

All participants were asked how often they purchased food which they found to be spoiled, stale, or "bad" in some way. (This question was directed at consumer food purchases throughout the year--in effect asking more for an opinion than for a precise report of experience over a short period of time.) As shown below (and in app. table B-8), 93 percent of all persons surveyed stated that they never or rarely purchased food which was spoiled or stale:

| Frequency | Percent of total sample 1/ |
|---|---|
| Never | 33 |
| Hardly ever | 60 |
| Fairly often | 5 |
| Very often | 2 |

1/ Sample size = 1,531 respondents.

Seven percent claimed they bought spoiled food often. Later in the report, there will be a discussion of the kinds of people who express different attitudes toward food freshness.

## Satisfaction With Freshness of Food Throughout the Year

Shoppers were asked how satisfied they were with the freshness of the food they purchased. As shown below (and in more detail in app. table B-9), 92 percent of the consumers sampled indicated satisfaction as opposed to dissatisfaction:

| Reaction | Percent of total sample 1/ |
|---|---|
| Very satisfied | 53 |
| Fairly satisfied | 39 |
| Somewhat dissatisfied | 6 |
| Very dissatisfied | 2 |

1/ Sample size = 1,531 respondents.

## Requests for Replacement or Money Back

Respondents were asked if they normally ask for replacement or their money back upon finding that they had purchased food that was spoiled or bad in some way. As indicated below (and in app. table B-10), the most typical reaction was to ask for a replacement:

| Action | Percent of total sample 1/ |
|---|---|
| Ask for replacement | 31 |
| Forget about it | 27 |
| Ask for money back | 15 |
| Depend upon situation | 1 |
| Don't know or no answer | 26 |

1/ Sample size = 1,531 respondents.

Nearly all (96 percent) who stated that their typical reaction to spoiled food purchases was to ask for a replacement or a cash refund indicated satisfaction with the way in which their last complaint was handled. Appendix table B-11 contains a detailed breakdown of these data, and shows that consumer satisfaction is uniformly high across most subgroups investigated.

## Consumer Awareness of Guarantees

Consumer awareness of the money-back guarantees offered by most grocery stores and food manufacturers was found to be somewhat low, especially among 18 to 24 year olds. A high percentage of the negative responses were in the "did not know" category, indicating a degree of consumer uncertainty regarding the question. The findings are summarized below and in appendix tables B-12 and B-13:

| Aware of guarantee | Percent of total sample 1/ | Percent of those aged 18-24 2/ |
|---|---|---|
| Store: | | |
| Yes | 62 | 47 |
| No | 5 | 17 |
| Did not know | 33 | 36 |
| Manufacturer: | | |
| Yes | 43 | 39 |
| No | 5 | 12 |
| Did not know | 52 | 49 |

1/ Sample size = 1,531 respondents.
2/ Sample size = 173 respondents.

## Consumer Awareness of Open-Dating Information

Because some food chains across the country had installed open-dating programs, the survey evaluated the extent to which consumers were aware of dated products. 3/ Respondents were asked if they had noticed any dated products in stores (other than refrigerated dough, which had been open dated for some time). As indicated in appendix table B-14, 41 percent of the sample said they had noticed such a date.

## Products on Which A Date Was Noticed

Respondents reporting they had noticed a freshness date were then asked to identify the products upon which dates had appeared. Appendix table B-15 contains a detailed listing. As indicated below, most respondents were aware of dating on milk and other dairy products, and to a lesser extent, baked goods:

| Food category | Percent of total sample noticing date on food 1/ |
|---|---|
| Milk | 17 |
| Cottage cheese | 7 |
| Sour cream | 2 |
| Other dairy products | 14 |
| Meat, poultry or fish | 5 |
| Processed meat | 5 |
| Bread | 7 |
| Rolls | 5 |
| Other baked goods | 4 |
| Snack items | 1 |
| Other | 11 |
| No answer; don't know | 1 |

1/ Sample size = 1,531 respondents. Although 41 percent of all respondents said they noticed a date on at least 1 food category, the percentages add to more than 41 percent because some respondents identified more than 1 product.

3/ The number of stores with open dating has increased since June 1971 when this survey was made.

## The Meaning of the Observed Date

Consumers who said they had noticed freshness dates on products were then asked to explain what they thought the information signified. Although most, if not all, chains are using a pull-date system, 4/ as indicated below (and in app. table B-16), nearly half the respondents considered the information an expiration date (meaning the last day the product should be used). Only 30 percent correctly said that the information was a pull date (meaning the last day the item should be sold):

| Interpretation | Percent of those observing dates 1/ |
|---|---|
| Expiration date (last date product should be used) | 44 |
| Pull date (last date item should be sold) | 29 |
| Pack date (packed or processed) | 14 |
| Delivery/display date | 10 |
| Some other date | 1 |
| Don't know; no answer | 2 |

1/ Sample size = 628 respondents (the 41 percent who observed a date).

## Frequency of Sorting Through Packages

Consumers who reported that they had noticed a date on food products were also asked whether they sorted through the packages seeking items which were freshest. Sixty-one percent said they did (app. table B-17).

## Finding Fresher Foods When Sorting

The 387 shoppers who reported that they normally sorted through dated items seeking the freshest ones were asked whether they found some items to be fresher than others. Almost three out of four said they did (app. table B-18). 5/

4/ The pull-date is the date after which a product cannot be sold; the pack date is the date on which the product was packed or processed; an expiration date system shows the last date on which a product should be used.

5/ The number of respondents eligible for this question was small, producing extremely small subgroupings, which in turn, produce statistically unreliable figures. Interpretation from app. table B-18 should be made with caution.

## The Most Helpful Date

All respondents were asked to indicate which dating format would be most helpful to them in their shopping. Their responses are summarized below (a more detailed breakdown can be found in app. table B-19):

| Preferred dating system | Percent of total sample 1/ |
|---|---|
| Last date product should be used | 49 |
| Date product was packed | 18 |
| Last date to be sold | 12 |
| Date product was delivered to store | 11 |
| Some other date | 2 |
| No opinion | 9 |

1/ Sample size = 1,531 respondents.

## Demographic Profile of Shoppers

The demographic breakouts in the appendix tables reveal some characteristics of the shoppers who most frequently report experience with bad food, who throw food away because it is old--even though it may still be good--and who express relatively low level of satisfaction with the freshness of food. These shoppers tended to be young, affluent, suburban residents who had relatively new refrigerators and who patronized large supermarkets. Conversely, the undereducated, poor, elderly, rural and inner-city residents who had old (or no) refrigerators and who shopped in small independent stores reported fewer experiences with bad food and showed higher levels of satisfaction with the freshness of their food.

This indicates that either (1) the young, affluent, educated suburban shoppers' food was not as fresh as that consumed by the elderly, poor, undereducated, inner-city and rural shoppers; or (2) members of the former group had higher expectations regarding the freshness of food and thus perceived a greater discrepancy between the freshness of food and their expectations.

It is generally believed that the food sold in large, suburban supermarkets is fresher than that sold in small inner-city and rural stores. If this is true, it suggests the possibility of research on why young, educated, and affluent persons are relatively dissatisfied with the freshness of their food, while undereducated, elderly, and poor persons seem less disturbed about food which may not be fresh.

## PART II.--IN-STORE OPEN-DATING EXPERIMENT ON CONSUMER REACTIONS

### Introduction

An in-store open-dating experiment was designed in cooperation with a chain to determine (1) if open dating of grocery products would reduce instances of consumers' reports of encountering spoiled, stale, or otherwise "bad" foods in six problem areas: fresh meat, poultry and fish, processed meats, dairy products, baked goods, fresh vegetables, and fresh fruits; and (2) whether a pull-date or a pack-date system would be more effective.

### The Experimental Design

Twelve Ohio chainstores were selected for the experiment: five in Hamilton, three in Middletown, and four in Cincinnati. All five stores in Hamilton initiated a pull-date system, while the three stores in Middletown initiated a pack-date system. Two stores in Cincinnati, for purposes of comparison, continued with no open dating or other special efforts forming the standard control. To build in another control, in two other Cincinnati stores, management made a special effort to improve food handling, storage, and stock rotation practices.

Open-dating programs were introduced on August 8, 1971, and promoted over an 8-week period (until October 5). 6/ During the 4 weeks before August 8, two interviewers in each store asked shoppers the questions on page 10.

The same questions were asked again in early October 1971, after the 8-week promotion period, and again in July 1972, some 10 months after the initial promotion period, when open dating (with a pull-date system) had been installed in all the chain's stores. 7/ No additional advertising promotion followed the chain's adoption of open dating in its other stores.

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6/ To increase consumer awareness of open-dating programs, an intensive promotional campaign was conducted for an 8-week period. During the first week, full-page advertisements appeared in local newspapers to introduce the program. Smaller followup ads appeared in local newspapers during each subsequent week. In-store promotions consisted of large banners placed in each store announcing the open-dating program, bright signs for each dated item, reading "this item open dated," and handouts to shoppers explaining the program.

7/ Additional interviews have been planned for periods subsequent to July 1972 to continue studying shopper reactions.

Please think back over the past 2 weeks; other than leftovers, has any food you bought from this chain spoiled or gone bad before you thought it should? Please check "yes" or "no".

☐ YES ☐ NO

If you had some food bought from this chain spoil or go bad, during the past 2 weeks, please check the box by the food that was bad and tell us about how many days you had it before you noticed it wasn't good.

☐ Fresh meat.....days

☐ Fresh chicken.....days

☐ Luncheon meat.....days

☐ Bacon.....days

☐ Ham (not canned).....days

☐ Wieners.....days

☐ Sausage.....days

☐ Milk.....days

☐ Cottage cheese.....days

☐ Cream.....days

☐ Bread.....days

☐ Rolls.....days

☐ Sweet rolls.....days

☐ Lettuce.....days

☐ Tomatoes.....days

☐ Potatoes.....days

☐ Other fresh vegetables
What was it?
.....
number of days.....

☐ Oranges.....days

☐ Bananas.....days

☐ Apples.....days

☐ Other fresh fruit
What was it?
.....
number of days.....

☐ Any other food?
What was it?
.....
number of days.....

☐ Any other food?
What was it?
.....
number of days.....

A total of 12,975 interviews were conducted. Table 1 shows the design of the experiment and the number of interviews conducted under each condition.

Table 1--Interviews conducted before and after open-dating promotion, and type of dating, Ohio, 1971-72

| Experimental condition | Total interviews | City and number of store in sample | | | |
|---|---|---|---|---|---|
| | | Hamilton, 5 stores | Middletown, 3 stores | Cincinnati, 2 stores | Cincinnati, 2 stores |
| | | Number of interviews | | | |
| Before open dating: | | | | | |
| Food not open dated | 4,540 | 1,096 | 1,386 | 1,020 | 1,038 |
| After 8-week promotion: | 6,584 | | | | |
| Pull dated | | 2,083 | | | |
| Pack dated | | | 1,557 | | |
| No dating: | | | | | |
| Improved handling | | | | 1,964 | |
| Standard control | | | | | 980 |
| 10 months later: | 1,851 | | | | |
| Pull dated | | 804 | 487 | 359 | 201 |
| Total | 12,975 | 3,983 | 3,430 | 3,343 | 2,219 |

## Findings

The overall results of the first 8 weeks of the experiment are shown below:

| Experimental condition | Percent of shoppers reporting stale food 1/ | |
|---|---|---|
| | Before open dating | After 8-week promotion period |
| Open dating stores | 19.8 | 10.4 |
| No open dating in stores | 22.5 | 25.7 |

1/ Sample size shown in table 1.

The percentage reduction (almost 50) in the frequency of consumer's reports of spoiled food is judged highly significant from a statistical as well as from a practical point of view.

Next, the relative effectiveness of a pull-date system versus a pack-date was compared with the two control conditions--improved handling efforts and nonopen dating (standard control) stores. The following tabulation shows the results:

| Experimental condition | Percent of shoppers reporting stale food 1/ | |
|---|---|---|
| | Before open dating | After 8-week promotion period |
| Pull date | 19.4 | 9.9 |
| Pack date | 20.1 | 11.0 |
| No open dating: | | |
| Improved handling control | 20.6 | 27.7 |
| Standard control | 24.6 | 21.6 |

1/ Sample size shown in table 1.

Both types of open dating investigated (pull and pack dates) appear equally effective in reducing the frequency of food freshness complaints. As expected, little change was observed in the standard control stores. However, complaints increased in the stores which improved food handling, storage, and stock rotation practices. There seems to be no particular reason why the level of reported purchase of bad food should increase in those stores, nor do the economic data provide a clue. Complaints did increase, which is evidence that these attempts to improve handling practices alone (without open dating) were not effective.

## Ten Months After Installation of Pull Dates in All Chain's Stores

Following the 8-week experimental period, the chain decided to install a pull-date system in all stores. In July 1972, after open dating had become routine, another survey was conducted to obtain trend data. Overall results are shown below:

| Experimental condition | City and number of stores in sample 1/ | | | | |
|---|---|---|---|---|---|
| | Hamilton, 5 stores | Middletown, 3 stores | Cincinnati, 2 stores | Cincinnati, 2 stores 2/ | Oxford, 1 store 2/ |
| | Percent of shoppers reporting stale food | | | | |
| August 1971; before open dating: | | | | | |
| Food not open dated | 19.4 | 20.1 | 20.6 | 24.6 | -- |
| October 1971; after 8-week promotion: | | | | | |
| Pull dated | 9.9 | | | | |
| Pack dated | | 11.0 | | | |
| No date | | | 27.7 | 21.6 | |
| July 1972, 10 months later: | | | | | |
| Pull dated | 13.8 | 13.6 | 16.4 | 11.4 | 26.4 |

1/ Sample sizes shown in table 1.

2/ In August and October 1971, interviews were conducted at 2 Cincinnati stores numbered 330 and 324. Unfortunately, in July 1972, instructions were given to interview in stores 330 and 342 (instead of 324). Store 342 is located in Oxford, Ohio.

The stores in Cincinnati which did not have open dating during the 8-week promotion period, but did soon thereafter, showed significant decreases in complaints 10 months later. In the Hamilton and Middletown stores, where open dating was continued in a somewhat different form but was not further promoted, complaints increased back toward the level observed before open dating was installed, but were still lower than those originally observed. A number of factors, which were not systematically investigated in this study, could account for the increase in complaints. The stores in Middletown changed from a pack-date system to a pull-date system. While some additional items were open dated in the stores in both towns, open dating of the "problem" categories of fresh meat, poultry, and fish, fresh vegetables, and fresh fruit was dropped until new equipment was available. The lack of further promotion may also have been a factor in the rise in complaints, along with the possibility of a decline in interest in, and excitement about, open dating as it became commonplace.

The results of the inadvertent interviewing in Oxford, Ohio, allow an observation: young, educated, and affluent shoppers are more critical of food freshness, as shown by the high 26.4 percentage. This is consistent with national telephone survey data (app. table B-1).

## Detailed Trend Data by Major Product Categories

Table 2 shows the percentage of shoppers reporting the purchase of spoiled or stale foods by major product categories. After 8 weeks, the frequency of reported purchases of spoiled food decreased in each category under open-dating conditions, but comparable decreases were not usually observed under standard control conditions, and increases occurred in the handling control stores. Ten months later, in July 1972, with the pull-date system installed in all stores, percentages decreased in every category under the two control

conditions, while in the original pull-and pack-date stores, some percentages increased and others decreased. In general, these data tend to indicate that the installation of an open-dating system results in the food in the store being fresher, which in turn reduces the reported frequency of the purchase of stale foods. However, futher examination of the data raises an alternative explanation which merits consideration in future research.

First, observe the average for all "open-dated food" compared with "all other foods" in table 2 after the 8-week promotion period (August-October, 1971) compared with the percentages obtained before open dating. Notice that the changes in the percentages in the "all other foods" category are similar to the changes in the "open-dated" category. A product moment correlation 8/ was calculated and found to be 0.83, which is significant at the 0.05 probability level, indicating that this similar systematic pattern of variation very likely did not occur by chance. The decreases in "complaints" in the "open-dated" category could be attributed to fresher food, but the decreases during the 8-week period in the "all other foods" category cannot be accounted for by changes in the freshness of the food due to open dating, since no additional products in this category were open dated. This suggests the possibility that "complaints" could have decreased on all products (whether there was a change in open dating or not) due to favorable changes in consumer attitudes toward the store. A generalized increase in confidence in the freshness of the food in the store may have resulted from installing and promoting open dating.

A correlation coefficient including the pull-date data for July 1972 (when no further promotion was done) was also calculated and found to be statistically significant. A few products in the "all other foods" category were first open dated at this time, but it is unlikely that the introduction of open dating on such a small number of items could account for the observed percentage decreases in complaints.

While some of the percentages in table 2 change in a direction that would support a hypothesis that open dating is effective, other shifts in percentages occurred which could not be due to changes in the food, but could be accounted for by favorable changes in consumer attitudes. For example, in July 1972, under the two control conditions, all percentages of spoiled foods decreased, but only three perishables (processed meats, fresh dairy products, and baked goods) were open dated, while the other three (fresh meat, poultry, and fish, and fresh vegetables and fruit) were not open dated.

In July 1972, when open dating of fresh vegetables and fresh fruit had been long discontinued, fresh vegetable complaints decreased further, supporting an attitudinal change hypothesis while fresh fruit complaints increased, supporting a hypothesis of open-dating effectiveness. Also, complaints on fresh meat, poultry, and fish increased, supporting a hypothesis of open-dating effectiveness.

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8/ This coefficient may take absolute values between 0 and 1.00. When there is no association between 2 sets of numbers, its value is 0; when the association is perfect, its value is 1.00.

Table 2--Shoppers reporting the purchase of stale food before and after open-dating promotion, by type of food and store, Ohio, 1971-72

| Type of food | Pull date stores | | |
|---|---|---|---|
| | Aug. 1971, before open dating (base=1,096) | Oct. 1971, after 8-week promotion (base=2,083) | July 1972, pull date in effect (base=803) |
| | Percent | | |
| Open-dated food: | | | |
| Fresh meat, poultry, and fish | 2.0 | 1.5 | 1/ 3.5 |
| Processed meats | 3.8 | 1.4 | 1.4 |
| Fresh dairy products | 6.5 | 3.4 | 3.4 |
| Baked goods | 3.3 | 1.1 | 0.2 |
| Fresh vegetables | 10.5 | 2.8 | 1/ 1.1 |
| Fresh fruit | 7.3 | 1.8 | 1/ 2.9 |
| All other foods: | 3.1 | 1.8 | 2/ 1.5 |
| Arithmetic average of open-dated foods | 5.6 | 2.0 | 1.7 |
| | Pack date stores | | |
| | (base=1,386) | (base=1,557) | (base=487) |
| | Percent | | |
| Open-dated food: | | | |
| Fresh meat, poultry, and fish | 4.5 | 1.9 | 1/ 2.7 |
| Processed meats | 2.8 | 1.5 | 1.6 |
| Fresh dairy products | 4.7 | 2.4 | 2.5 |
| Baked goods | 2.1 | 1.3 | 0.6 |
| Fresh vegetables | 8.9 | 3.0 | 1/ 2.1 |
| Fresh fruit | 5.6 | 1.9 | 1/ 4.1 |
| All other foods: | 3.7 | 2.0 | 2/ 1.8 |
| Arithmetic average of open-dated foods | 4.8 | 2.0 | 1.6 |

See footnotes at end of table.

Continued

Table 2--Shoppers reporting the purchase of stale food before and after open-dating promotion, by type of food and store, Ohio, 1971-72--Continued

| Type of food | Standard control stores | | |
|---|---|---|---|
| | Aug. 1971, before open dating (base=1,038) | Oct. 1971, after 8-week promotion (base=980) | July 1972, pull date in effect (base=201) |
| | Percent | | |
| Open-dated food: | | | |
| Fresh meat, poultry, and fish | 3.9 | 4.9 | 1/ 1.5 |
| Processed meats | 4.8 | 2.3 | 0.0 |
| Fresh dairy products | 7.8 | 5.6 | 2.0 |
| Baked goods | 2.3 | 1.1 | 0.5 |
| Fresh vegetables | 12.5 | 6.3 | 1/ 1.0 |
| Fresh fruit | 10.4 | 5.6 | 1/ 3.0 |
| All other foods: | 4.8 | 4.4 | 2/ 1.0 |
| Arithmetic average of open-dated foods | 7.0 | 4.3 | 0.8 |
| | Handling control stores | | |
| | (base=1,020) | (base=1,964) | (base=359) |
| | Percent | | |
| Open-dated food: | | | |
| Fresh meat, poultry, and fish | 1.9 | 7.6 | 3.3 |
| Processed meats | 3.3 | 3.5 | 1.1 |
| Fresh dairy products | 4.0 | 7.4 | 3.6 |
| Baked goods | 1.6 | 2.2 | 0.3 |
| Fresh vegetables | 6.0 | 12.6 | 1/ 5.3 |
| Fresh fruit | 5.3 | 9.6 | 1/ 4.2 |
| All other foods: | 3.4 | 7.3 | 2/ 1.7 |
| Arithmetic average of open-dated foods | 3.7 | 7.2 | 1.7 |

1/ Not open-dated in July 1972.
2/ An extremely small fraction of the "all other foods" category was open dated; see tabulation on p. 18.

In summary, the results of this experiment show that the frequency of the reported purchase of stale food is reduced when open dating is installed. These data suggest, however, that in some circumstances, this reduction may be primarily due to changes in attitude (increased confidence in the freshness of all food in the store) rather than major changes in the food itself.

## Satisfaction With Food Freshness

The respondents in the July 1972 survey who do most of their grocery shopping in a store with partial open dating were asked about their degree of satisfaction with the freshness of the food they buy throughout the year. The results are reported below and compared with those obtained for an identical question in the national telephone survey in June 1971:

| Degree of satisfaction | Percent of respondents | |
|---|---|---|
| | Store survey 1/ | National telephone survey 2/ |
| Very satisfied | 65 | 53 |
| Fairly satisfied | 31 | 39 |
| Somewhat dissatisfied | 3 | 6 |
| Very dissatisfied | 1 | 2 |

1/ Sample size = 2,049 respondents.
2/ Sample size = 1,531 respondents.

The shoppers who had open dating (July 1972) seem more satisfied with food freshness than shoppers in the national telephone sample (June 1971), who for the most part did not have open dating in their stores.

## Shopper Awareness, Knowledge, and Claimed Usage of Open Dating

About two-thirds of the 2,049 shoppers interviewed in the 1972 store survey said they noticed open dating in the store. Those who had noticed it were asked in an open-ended question what they thought the date means:

| Interpretation | Percent of those observing dates 1/ |
|---|---|
| Pull date (last date items should be sold) 2/ | 36.0 |
| Expiration date (last date items should be used) | 31.8 |
| Pack date | 10.1 |
| Display date | 6.0 |
| Delivery date | 2.8 |
| Miscellaneous | 6.9 |
| Don't know | 6.4 |

1/ Sample size = 1,369.
2/ Correct answer.

Only slightly more than one-third of the shoppers knew the date is the pull date; thus, most were unable to use the information correctly at the time of the survey.

Almost four out of 10 shoppers said they used open dating on the shopping trip which had just been completed. The product categories on which they reported usage are shown below, although many shoppers reported using dates on undated products:

| Products open dated: | Percent of shoppers reporting use of open dating |
|---|---|
| Milk | 16.0 |
| Eggs | 12.8 |
| Bread | 7.3 |
| Cottage cheese | 6.7 |
| Cream | 6.7 |
| Rolls | 5.8 |
| Luncheon meat | 2.0 |
| Bacon | 1.2 |
| Wieners | 0.7 |
| Products not open dated: | |
| Fresh meat | 16.3 |
| Fresh vegetables | 4.4 |
| Fresh fruit | 2.7 |
| Fresh poultry | 2.6 |

Sample size = 2,049 respondents.

Although fresh meat, poultry, fish, vegetables, and fruit were open dated in test stores during the promotion period, they were not dated in July 1972. Open-dated products in July 1972 were:

Processed meat: Wieners, luncheon meat, and others.
Fresh dairy products: Fluid milk and cultured dairy products (cottage cheese, yogurt, sour cream, and dips).
Baked goods: Bread, sweet goods, rolls, and buns.
Other foods (newly open dated): Nut meats (in bags), peanut butter, salad dressing and mayonnaise, preserves and jellies, and ice cream toppings (the chain had open dated eggs and bagged coffee for a long time).

The inaccurate reports of use of open-dating information on products which are not open dated cannot be easily attributed to memory failure, since the shoppers were interviewed in the store within minutes after completing a shopping trip in the store where they do most of their shopping. This leads to doubt about the extent of actual usage among those who claimed to use open dating on the products which were open dated. Further research is needed to determine why shoppers claimed usage of open dating where such usage was impossible and to determine the accuracy of claimed usage figures with regard to open-dated products.

## PART III.--ECONOMIC IMPACT OF OPEN DATING ON FOODSTORE OPERATIONS

### Introduction

The economic impact of open dating on retail foodstore operations had not been determined when the Economic Research Service began its study of an experimental open-dating program in Ohio.. A 1971 ERS study provided data on consumer awareness and use of an already-operating open-dating program. (See A Case Study of Food Dating in Selected Chicago Supermarkets, U.S. Dept. Agr. Mktg. Res. Rpt. No. 943, Nov. 1971). The Rutgers University Food Science Department had looked at open dating as a means of assuring--or improving--food quality (Food Stability Survey, Vols. I and II). But neither of these studies provided information on what effect, if any, the introduction of open dating would have on store operating costs and customers' shopping practices.

Data were collected in the Ohio stores 4 weeks before (pretest) and during the 8-week test of open dating to determine if its introduction affected the number and value of products that had to be reduced in price or thrown away because of date expiration. It was assumed that if customers were sorting through products on display to buy selectively on the basis of date, the number of products that had to be withdrawn would be affected. This change in product waste could, in turn, affect the store's losses as a percentage of gross sales and might have an impact on operating costs.

### Methodology

Four Hamilton, Ohio, stores 9/ used pull dates on about 600 items from August 9 to October 5, 1971. Pack dates for the same items were used in three Middletown stores during the same weeks. In addition, personnel in two Cincinnati stores were encouraged to improve product handling practices during the test period. Managers in these two stores were not told that they were part of an open-dating experiment nor that their results would be compared with those of test stores.

In-store introduction of open dating was announced in a full-page advertisement explaining the open-dating system being used: Hamilton--pull dates--and Middletown--pack dates. Large, colorful signs in each store's front windows featured open dating, and shelf tags reading "this item open dated" called attention to the test.

Random-weight meat and produce items were dated on the usual pricing labels (product name, total weight, price per pound, total price, and code), adapted to a three-letter, two-digit date. Fixed-weight items had date

9/ Five stores in Hamilton actually introduced pull dates on August 9, 1971. However, since one store opened during the pretest phase of the experiment, data are available for only four stores using pull dates.

information on a three-line pressure-sensitive label. The first line read "Packed on" or "Sell by"; the second line, the date (three letters, two digits); and the third line, the price of the item. Except for luncheon meats, the same items were open dated in both towns. Because one national brand of luncheon meats is stamped with pull dates, pack dates were not used on any luncheon meats in the Middletown stores. Two different dating systems on products side by side in the display case could have confused shoppers and store personnel. (See app. C for a list of products included in the open-dating experiment.)

Each day, the store manager, or an assistant, recorded the item input and rehandling in four departments--meat, produce, dairy, and bakery. On the daily input sheet for each product group, the total number of packages displayed was noted. When a package was taken off the shelf (rehandled), four facts were recorded: (1) the reason for rehandling; (2) the action taken; (3) the original value of the package; and (4) the amount of dollar loss. The five possible reasons for rehandling were that the item was out-of-date, discolored, spoiled (unsalable), the package was broken, or a price change had to be made. Depending on why it was removed, the item was rewrapped, or trimmed and rewrapped, or reduced in price, or discarded. The dollar loss per package was the amount of reduction from the original price or the price of a discarded item.

Data collected during the 4-week pretest provided the basis for evaluating the effect of open dates on store operations. The two measures used to determine the effect were: (1) product losses as a percentage of gross sales; and (2) packages rehandled as a percentage of those displayed. In addition, the share of packages rehandled for each of the five possible reasons was computed. Sales trends for the four departments in the sample stores were compared with those in the chain's other Cincinnati division stores to determine if any change in sales patterns or unusual trends occurred in the sample stores. Comparisons of sales data, share of packages rehandled, and percentage of dollar losses between the 4-week pretest and the 8-week test were made to determine the impact, if any, dates would have.

## Findings

In general, losses as percentage of gross sales or items handled declined during the 4-week pretest period and continued to decline during the next 8 weeks when open dating was in use. Decline in loss occurred not only in the stores where open dating was introduced but also in the control stores where good handling practices were stressed. This indicates that reductions in waste or dollar loss were due to generally improved store practices encouraged by recordkeeping, rather than just to open dating. However, since the overall pattern was the same in the three groups of stores (pack date, pull date, improved handling), the introduction of open dating apparently did not substantially increase the amount of product waste.

The share of packages rehandled was lower during the test period than during the pretest period. For the four product groups as a whole, 7.8 percent of the packages displayed required rehandling during the pretest; after the introduction of open dates and improved handling, 5.6 percent were rehandled. The meat departments showed the most improvement, followed by produce, dairy, and baked goods.

Although waste varied among the four product groups, only one group of sample stores reported an increase in dollar losses as a percentage of department gross sales. This occurred in the dairy departments of stores using pack dates, where losses during open dating were greater in terms of dollar values and packages rehandled. During the test, two other groups (produce departments in pull-date stores and baked goods in control stores) reported a larger share of packages rehandled, but dollar losses were less. This indicates that items were checked more carefully than before and perhaps reduced in price near the end of their shelf life, instead of being left on the shelf until they had to be thrown away. Such a procedure requires more rehandling but reduces dollar losses.

Weekly department sales were generally lower for all four product groups during the test than during the pretest. However, the lower sales level was not confined to the test stores; the same trend was evident in the sales of the entire division. Looking at the matter of sales from another point of view, there was no indication that open dating attracted more shoppers, thereby increasing store sales.

Meat

Meat departments in the nine sample stores showed a substantial change in the loss rate after the introduction of open dates and improved handling. Losses, in terms of dollar values and packages rehandled, were much lower, regardless of the test method (pack date, pull date, improved handling).

When package rehandling and dollar loss rates are examined separately for each of the three groups of stores, the trend to smaller losses is the same, although the magnitude differs. In terms of packages displayed, there was a drop overall in rehandling. Stores using pack dates showed the most improvement, followed by those using pull dates and the control stores(table 3). Pull-date stores showed the most improvement in dollar loss rates, followed by pack-date stores and handling-control stores (table 4).

Weekly dollar losses in each group increased slightly toward the end of the experiment, perhaps due to the tedium of recordkeeping. However, in all meat departments, losses during the 12th week remained substantially lower than during the earlier pretest weeks. Thus, it seems that attention to dates and handling could consistently result in a lower rate of product loss. Furthermore, since reductions in dollar losses and rehandled packages occurred regardless of the test method used, the introduction of open dates apparently did not affect shopper selection of meat, and store personnel apparently were attentive to product handling.

Table 3--Meat: Items rehandled as percent of total items displayed, 9 Ohio retail food chainstores, August-October 1971

| Test method | Pretest (weeks 1-4) | | | Test (weeks 5-12) | | | Difference |
|---|---|---|---|---|---|---|---|
| | Displayed | Rehandled | Share rehandled | Displayed | Rehandled | Share rehandled | |
| | No. | No. | Pct. | No. | No. | Pct. | |
| Pack date | 74,409 | 4,250 | 5.71 | 149,622 | 4,316 | 2.89 | -2.82 |
| Pull date | 107,827 | 6,457 | 5.99 | 215,956 | 7,549 | 3.50 | -2.49 |
| Control | 64,174 | 867 | 1.35 | 135,193 | 1,091 | .81 | -.54 |
| Total | 246,410 | 11,574 | 4.70 | 500,771 | 12,956 | 2.59 | -2.11 |

Table 4--Meat: Product losses due to rehandling as a percent of department gross gross sales, 9 Ohio retail food chainstores, August-October 1971

| Test method | Pretest, weeks 1-4 | Test period: Weeks 5-8 | Test period: Weeks 9-12 | Test period: Weeks 5-12 | Difference (weeks 5-12 compared with weeks 1-4) |
|---|---|---|---|---|---|
| | Percent | | | | |
| Pack date | 2.30 | 1.16 | 1.41 | 1.28 | -1.02 |
| Pull date | 2.25 | 1.14 | 1.16 | 1.15 | -1.10 |
| Control | .71 | .37 | .46 | .41 | -.30 |
| Total | 1.85 | .92 | 1.03 | .97 | -.88 |

Stores varied considerably in the reasons for rehandling meat, but one change occurred in all stores using pull dates. Although the actual percentages varied widely among the four stores, the percentage of packages rehandled because they were nearly out of date increased. In one control store where the total number of rehandled packages was low during both time periods, about two-thirds of the rehandling was due to discoloration and one-third to date expiration (items were code dated) during the four pretest weeks. During the test, when fewer packages were rehandled than in the pretest, two-thirds were recorded as being out-of-date and one-third as discolored. With so few packages involved, definite conclusions are difficult to make, but there seems to have been some shift in rehandling emphasis (table 5).

Table 5--Meat: Packages rehandled for selected reasons as a percent of total packages rehandled, 9 Ohio retail food chainstores, August-October 1971

| Test method and store | Time period | Total packages rehandled | | Reason for rehandling: Out of date | Nearly out of date | Product discolored | Package broken | Product spoiled |
|---|---|---|---|---|---|---|---|---|
| | | Number | | Percent | | | | |
| Pack dates: | | | | | | | | |
| Store A | Pretest | 1,106 | 100 | 39.2 | 53.7 | 4.6 | -- | 2.5 |
| | Test | 1,487 | 100 | 59.8 | 29.0 | 7.9 | -- | 3.3 |
| Store B | Pretest | 2,190 | 100 | 8.2 | 6.8 | 77.0 | 3.1 | 4.9 |
| | Test | 1,485 | 100 | 16.0 | 4.4 | 77.1 | .9 | 1.6 |
| Store C | Pretest | 954 | 100 | 36.2 | 60.5 | 3.2 | .1 | -- |
| | Test | 1,344 | 100 | 14.3 | 68.1 | 14.8 | -- | 2.8 |
| Sub-total | Pretest | 4,250 | 100 | 22.6 | 31.0 | 41.6 | 1.6 | 3.2 |
| | Test | 4,316 | 100 | 30.5 | 32.7 | 33.9 | .3 | 2.6 |
| Pull dates: | | | | | | | | |
| Store D | Pretest | 1,532 | 100 | .8 | 98.7 | .5 | -- | -- |
| | Test | 2,041 | 100 | .5 | 99.5 | -- | -- | -- |
| Store E | Pretest | 2,698 | 100 | 10.7 | 87.4 | 1.2 | .1 | .6 |
| | Test | 2,289 | 100 | 2.0 | 96.6 | .4 | -- | 1.0 |
| Store F | Pretest | 2,051 | 100 | 53.2 | 16.1 | 28.9 | -- | 1.8 |
| | Test | 2,756 | 100 | 26.6 | 19.4 | 52.9 | .8 | .3 |
| Store G | Pretest | 176 | 100 | 33.5 | 43.2 | 17.1 | 1.7 | 4.5 |
| | Test | 463 | 100 | 21.0 | 49.7 | 22.4 | .4 | 6.5 |
| Sub-total | Pretest | 6,457 | 100 | 22.5 | 66.2 | 10.3 | .1 | .9 |
| | Test | 7,549 | 100 | 11.8 | 66.3 | 20.8 | .3 | .8 |
| Control stores: | | | | | | | | |
| Store H | Pretest | 708 | 100 | 94.1 | -- | 5.9 | -- | -- |
| | Test | 981 | 100 | 99.9 | -- | .1 | -- | -- |
| Store I | Pretest | 159 | 100 | 33.3 | .6 | 62.3 | 1.3 | 2.5 |
| | Test | 110 | 100 | 63.6 | -- | 33.6 | 2.8 | -- |
| Sub-total | Pretest | 867 | 100 | 82.9 | .1 | 16.3 | .2 | .5 |
| | Test | 1,091 | 100 | 96.2 | -- | 3.5 | .3 | -- |

-- Means no response.

Produce

Handling is important to all products, but it has special importance for fresh fruits and vegetables, because items are easily damaged, and temperature, humidity, season, and product variety affect quality. The vital importance of handling to produce quality became apparent when improved practices were stressed in the two handling-control stores. In these stores, the share of packages that required rehandling and the rate of dollar loss were both reduced substantially during the test.

The amount of dollar loss reduction in all sample produce departments was similar to that reported in meat departments, although the amount of change was larger in produce departments. However, meat departments' losses were lowest during the first 4 weeks of the test--that is, lowest just after open dates and improved handling were initiated. In produce departments, the lowest loss rates came during the last 4 weeks of the test, which may indicate that a longer stabilization period for produce was needed after the introduction of a new system. The greatest loss reduction for meat departments occurred in stores using pull dates, followed by pack-date stores and control stores. In produce departments, the greatest reductions in dollar losses occurred in pack-date stores, followed by the control stores and those using pull dates (table 6). 10/

The pack-date stores also showed the most substantial improvement in terms of rehandled packages, but control stores also rehandled a smaller share of displayed packages during the test. In contrast, in stores using pull dates, the number of packages rehandled as a percentage of those displayed increased during the test, while dollar losses as a percentage of sales declined. Apparently, more attention was given to product rotation and rehandling, so that products could be reduced in price to sell before their pull date instead of remaining on display until they had to be discarded (table 7).

Reasons for product rehandling showed such variation among individual stores that no clear pattern emerged; individual store practices seemed to be the controlling factor (table 8). As an illustration, consider the three stores where pull dates were introduced. In one store, the share of products rehandled because they were out of date showed little change after open dating was introduced; in the second store, the share doubled; and in the third store, rehandling of out-of date items was almost eliminated.

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10/ Complete data on rehandling of produce packages were not available from one store, so the information on stores using pull dates reflects data from only three stores.

Table 6--Produce: Product losses due to rehandling as a percent of department gross sales, 8 Ohio retail food chainstores, August-October 1971

| Test method | Pretest, weeks 1-4 | Test period: Weeks 5-8 | Test period: Weeks 9-12 | Test period: Weeks 5-12 | Difference (weeks 5-12 compared with weeks 1-4) |
|---|---|---|---|---|---|
| | | | Percent | | |
| Pack date | 6.72 | 4.37 | 3.53 | 3.78 | -2.94 |
| Pull date | 5.74 | 4.33 | 2.65 | 3.50 | -2.24 |
| Control | 5.88 | 3.11 | 3.00 | 3.06 | -2.82 |
| Total | 6.12 | 3.93 | 3.05 | 3.48 | -2.64 |

Table 7--Produce: Items rehandled as a percent of total items displayed, 8 Ohio retail food chainstores, August-October 1971

| Test method | Pretest (weeks 1-4): Displayed | Pretest (weeks 1-4): Rehandled | Pretest (weeks 1-4): Share rehandled | Test (weeks 5-12): Displayed | Test (weeks 5-12): Rehandled | Test (weeks 5-12): Share rehandled | Difference |
|---|---|---|---|---|---|---|---|
| | No. | No. | Pct. | No. | No. | Pct. | |
| Pack date | 79,161 | 18,895 | 23.87 | 126,572 | 22,339 | 17.65 | -6.22 |
| Pull date | 76,684 | 7,092 | 9.25 | 107,677 | 11,256 | 10.45 | +1.20 |
| Control | 80,826 | 6,648 | 8.22 | 152,182 | 7,026 | 4.62 | -3.60 |
| Total | 236,671 | 32,635 | 13.79 | 386,431 | 40,621 | 10.51 | -3.28 |

Table 8--Produce: Packages rehandled for selected reasons as a percent of total packages rehandled, 8 Ohio retail food chainstores, August-October 1971

| Test method by store | Time period | Total packages rehandled | Reason for rehandling: Out of date | Nearly out of date | Product discolored | Package broken | Product spoiled |
|---|---|---|---|---|---|---|---|
| | | Number | Percent | | | | |
| Pack dates: | | | | | | | |
| Store A | Pretest | 3,709 | 100 | 39.8 | -- | 34.8 | .5 | 24.9 |
| | Test | 2,215 | 100 | 25.4 | 2.8 | 48.2 | .6 | 23.0 |
| Store B | Pretest | 7,182 | 100 | 61.1 | 1.4 | 29.9 | -- | 7.6 |
| | Test | 9,741 | 100 | 64.5 | .1 | 27.8 | .9 | 6.7 |
| Store C | Pretest | 8,004 | 100 | 62.9 | 3.3 | 17.4 | 1.0 | 15.4 |
| | Test | 10,383 | 100 | 65.7 | 5.4 | 16.4 | .9 | 11.6 |
| Sub-total | Pretest | 18,895 | 100 | 57.7 | 1.9 | 25.6 | .5 | 14.3 |
| | Test | 22,339 | 100 | 61.2 | 2.8 | 24.5 | .9 | 10.6 |
| Pull dates: | | | | | | | |
| Store D | Pretest | 2,581 | 100 | 53.4 | -- | 29.0 | 2.5 | 15.1 |
| | Test | 3,558 | 100 | 59.6 | 2.7 | 24.7 | .5 | 12.5 |
| Store E | Pretest | 4,192 | 100 | 36.3 | 16.0 | 10.2 | .1 | 37.4 |
| | Test | 7,408 | 100 | 75.6 | -- | 14.5 | .4 | 9.5 |
| Store F | Pretest | 319 | 100 | 33.2 | .3 | 18.5 | .6 | 47.4 |
| | Test | 290 | 100 | .7 | -- | 33.4 | 1.4 | 64.5 |
| Sub-total | Pretest | 7,092 | 100 | 42.4 | 9.5 | 17.4 | 1.0 | 29.7 |
| | Test | 11,256 | 100 | 68.6 | .8 | 18.3 | .4 | 11.9 |
| Control stores: | | | | | | | | |
| Store H | Pretest | 6,319 | 100 | 33.2 | 7.4 | 32.2 | 1.0 | 26.2 |
| | Test | 6,382 | 100 | 19.3 | 7.2 | 55.6 | 2.9 | 15.0 |
| Store I | Pretest | 329 | 100 | 18.8 | 3.0 | 29.8 | 11.6 | 36.8 |
| | Test | 644 | 100 | 17.5 | 1.6 | 40.1 | 1.4 | 39.4 |
| Sub-total | Pretest | 6,648 | 100 | 32.5 | 7.2 | 32.0 | 1.5 | 26.8 |
| | Test | 7,026 | 100 | 19.2 | 6.7 | 54.1 | 2.7 | 17.3 |

-- Means no response.

Dairy

The introduction of open dating and emphasis on handling had a different effect on losses in dairy departments than in meat and produce departments. Losses, as a percentage of sales in dairy departments, increased in each group of stores right after the introduction of open dating and improved handling. Losses declined during the last 4 weeks of the test and were at, or near, pretest levels during the last recordkeeping periods. The dairy departments were the only ones studied where the mere use of recordkeeping did not result in an immediate decline in losses as a percentage of sales (table 9).

Changes in dairy department loss rates should be viewed in perspective, because losses were very low during the pretest. Overall, the dairy departments of the nine sample stores had the lowest rehandling rate of any product group examined. Losses were generally less than 2 percent of dairy sales in each group of stores during both the pretest and experimental periods, and losses never reached 3 percent of sales for any single store. In terms of packages displayed, the rehandling rates were also low--3 percent or lower--for each group of stores before and during the test period (table 10).

The three stores where pack dates were introduced seemed to have the most difficulty in stabilizing product losses, in terms of dollar value and packages rehandled. During most of the test, losses as a percent of sales remained at higher levels than during the pretest; they showed some decline during the last 4 weeks of recordkeeping but had not returned to pretest levels. Again, even the increased rate of loss observed after introduction of pack dates was still less than 1 percent of the stores' dairy department gross sales. The same situation affects interpretation of packages rehandled as a percentage of those displayed. During the pretest, only 0.4 percent were rehandled; during the open dating test, 1.7 percent were rehandled. While this is a sizable increase for these stores, the rate is still much lower than that reported for other product groups.

Losses seemed to stabilize in the other two groups of stores. The share of packages that required rehandling declined in both the handling-control and pull-date stores after the test period began. Losses as a percentage of gross sales were higher in all three groups of stores immediately after the test started than they had been during the pretest period. But in the pull-date and handling-control stores, losses declined after the first 4 test weeks, and for the last 4 weeks were below pretest levels. Broken packages, which might indicate excessive sorting of dated items by shoppers, did not seem to be a particular problem. In five of seven stores where dates were introduced, the share of packages rehandled because they were broken declined--and, in two instances, declined substantially. In the two stores that reported a larger proportion of broken packages, the increases were fairly small, and the total number of packages rehandled dropped considerably (table 11).

Table 9--Dairy: Product losses due to rehandling as a percent of department gross sales, 9 Ohio retail food chainstores, August-October 1971

| Test method | Pretest, weeks 1-4 | Test period: Weeks 5-8 | Test period: Weeks 9-12 | Test period: Weeks 5-12 | Difference (weeks 5-12 compared with weeks 1-4) |
|---|---|---|---|---|---|
| | | | Percent | | |
| Pack date | 0.44 | 0.82 | 0.73 | 0.78 | +.34 |
| Pull date | 1.05 | 1.23 | .49 | .92 | -.13 |
| Control | .99 | 1.35 | .52 | .98 | -.01 |
| Total | .84 | 1.12 | .59 | .89 | +.05 |

Table 10--Dairy: Items rehandled as a percent of total items displayed, 9 Ohio retail food chainstores, August-October 1971

| Test method | Pretest (weeks 1-4): Displayed | Pretest (weeks 1-4): Rehandled | Pretest (weeks 1-4): Share rehandled | Test (weeks 5-12): Displayed | Test (weeks 5-12): Rehandled | Test (weeks 5-12): Share rehandled | Difference |
|---|---|---|---|---|---|---|---|
| | No. | No. | Pct. | No. | No. | Pct. | |
| Pack date | 40,390 | 164 | 0.4 | 66,730 | 1,111 | 1.7 | +1.3 |
| Pull date | 60,896 | 1,128 | 1.9 | 98,190 | 1,015 | 1.0 | -.9 |
| Control | 35,338 | 1,103 | 3.1 | 53,138 | 1,233 | 2.3 | -.8 |
| Total | 136,624 | 2,395 | 1.8 | 218,058 | 3,359 | 1.5 | -.3 |

Table 11--Dairy: Packages rehandled for selected reasons as a percent of total packages rehandled, 9 Ohio retail food chainstores, August-October 1971

| Stores using | Time period | Total rehandled | | Reasons for rehandling | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Out of date | Nearly out of date | Product discolored | Package broken | Product spoiled |
| | | Number | Percent | | | | | |
| Pack dates: | | | | | | | | |
| Store A | Pretest | 46 | 100 | 56.5 | -- | -- | 41.3 | 2.2 |
| | Test | 317 | 100 | 44.8 | 2.8 | -- | 5.4 | 47.0 |
| Store B | Pretest | 96 | 100 | 47.9 | 25.0 | -- | 27.1 | -- |
| | Test | 364 | 100 | 79.1 | 11.8 | -- | 9.1 | -- |
| Store C | Pretest | 22 | 100 | 18.2 | 63.6 | -- | 13.6 | 4.6 |
| | Test | 430 | 100 | 18.4 | 74.0 | -- | 7.6 | -- |
| Sub-total | Pretest | 164 | 100 | 46.3 | 23.2 | -- | 29.3 | 1.2 |
| | Test | 1,111 | 100 | 45.8 | 33.3 | -- | 7.5 | 13.4 |
| Pull dates: | | | | | | | | |
| Store D | Pretest | 465 | 100 | 98.5 | -- | -- | 1.5 | -- |
| | Test | 193 | 100 | 4.7 | 92.2 | -- | 3.1 | -- |
| Store E | Pretest | 264 | 100 | 22.0 | 73.1 | -- | 3.4 | 1.5 |
| | Test | 115 | 100 | 42.6 | 40.9 | -- | 11.3 | 5.2 |
| Store F | Pretest | 179 | 100 | 65.9 | -- | -- | 31.3 | 2.8 |
| | Test | 438 | 100 | 59.8 | 13.2 | -- | 22.8 | 4.2 |
| Store G | Pretest | 220 | 100 | .5 | 91.3 | -- | 8.2 | -- |
| | Test | 269 | 100 | 43.1 | 53.9 | -- | 3.0 | -- |
| Sub-total | Pretest | 1,128 | 100 | 56.3 | 34.9 | -- | 8.0 | .8 |
| | Test | 1,015 | 100 | 43.0 | 42.2 | -- | 12.4 | 2.4 |
| Control stores: | | | | | | | | |
| Store H | Pretest | 843 | 100 | 80.7 | -- | .1 | 14.5 | 4.7 |
| | Test | 888 | 100 | 58.7 | .7 | .1 | 26.8 | 13.7 |
| Store I | Pretest | 260 | 100 | 91.5 | 6.2 | -- | 2.3 | -- |
| | Test | 345 | 100 | -- | -- | -- | -- | -- |
| Sub-total | Pretest | 1,103 | 100 | 83.2 | 1.5 | .1 | 11.6 | 3.6 |
| | Test | 1,233 | 100 | 70.2 | .5 | .1 | 19.4 | 9.8 |

-- Means no response.

Bakery Goods

Dollar losses on rehandled packages were about 9 percent of sales in the six bakery departments during the pretest, and they were reduced to 6 percent after open dates were introduced. 11/ About 10 percent of the packages displayed during the 4-week pretest required rehandling, compared with 9 percent during the next 8 weeks.

During the pretest period, losses as a percentage of gross sales were higher in the two stores using pack dates than in any of the other stores. And losses were higher in these two stores the week immediately following introduction of open dates than they had been during the pretest. However, dollar losses then dropped sharply and remained low throughout the recordkeeping period. In fact, with only one exception in each store, losses remained far below pretest levels during the 8 weeks of open dating.

In the three stores using pull dates, losses in terms of sales were lower during the pretest than in the stores using pack dates (table 12). Losses increased in only one of the three stores immediately after open dates were introduced, and in that store, they declined below pretest levels the following week. In another store, losses as a percentage of sales were fairly consistent during both pretest and test periods, although they averaged slightly lower during the test. In the third store, reported losses declined steadily for the first 5 weeks of the test and then increased somewhat. However,for the test period as a whole, losses were lower than during the 4 pretest weeks.

Since data are available from only one control store where handling practices were stressed, conclusions are difficult to make. Losses that were reported fluctuated widely from week to week but were lower overall during the test than during the pretest (table 12).

Compared with the number of packages displayed, the number of packages requiring rehandling declined from pretest levels in both groups of stores where open dates were introduced. In the control store where handling was stressed, losses in terms of packages displayed were greater during the test than during the pretest. Dollar losses were lower during the test period, so items may have been reduced in price to sell before the end of their shelf life (table 13).

Generally, all reported rehandling was done because the item was out of date or nearly so. In only one store--the one where handling was stressed--were any other reasons mentioned frequently. In that store, about one-fourth of the 1,400 packages rehandled during the pretest weeks reportedly were broken; the rest were out of date. After the introduction of improved practices, instances of broken packages were virtually eliminated. Although the share of total packages requiring rehandling increased substantially, the reported reasons were about evenly divided between out of date and nearly out of date (table 14).

11/ Data from the bakery departments of six stores participating in the experiment are available for comparison. Two of the six introduced pack dates, three used pull dates, and one was a handling-control store.

Table 12--Baked goods: Product losses due to rehandling as a percent of department gross sales, 6 Ohio retail food chainstores, August-October 1971

| Test method | Pretest weeks 1-4 | Test period: Weeks 5-8 | Test period: Weeks 9-12 | Test period: Weeks 5-12 | Difference (weeks 5-12 compared with weeks 1-4) |
|---|---|---|---|---|---|
| | Percent | | | | |
| Pack date | 12.56 | 9.96 | 5.12 | 7.44 | -5.12 |
| Pull date | 6.34 | 4.14 | 4.26 | 4.22 | -2.12 |
| Control | 10.63 | 8.83 | 7.82 | 8.57 | -2.06 |
| Total | 8.72 | 6.35 | 5.16 | 5.81 | -2.91 |

Table 13--Baked goods: Items rehandled as a percent of total items displayed, 6 Ohio retail food chainstores, August-October 1971

| Test method | Pretest (weeks 1-4): Displayed | Pretest (weeks 1-4): Rehandled | Pretest (weeks 1-4): Share rehandled | Test (weeks 5-12): Displayed | Test (weeks 5-12): Rehandled | Test (weeks 5-12): Share rehandled | Difference |
|---|---|---|---|---|---|---|---|
| | No. | No. | Pct. | No. | No. | Pct. | |
| Pack date | 25,754 | 3,359 | 13.04 | 35,383 | 3,618 | 10.22 | -3.82 |
| Pull date | 52,603 | 4,086 | 7.77 | 96,184 | 6,314 | 6.56 | -1.21 |
| Control | 9,653 | 1,439 | 14.91 | 23,049 | 4,324 | 18.76 | +3.85 |
| Total | 88,010 | 8,884 | 10.09 | 154,616 | 14,256 | 9.22 | -.87 |

Table 14--Baked goods: Packages rehandled for selected reasons as a percent of total packages rehandled, 6 Ohio retail food chainstores, August-October 197

| Test method by store | Time period | Total packages rehandled | | Reason for rehandling | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Out of date | Nearly out of date | Product discolored | Package broken | Product spoiled |
| | | Number | | Percent | | | | |
| Pack dates: | | | | | | | | |
| Store A | Pretest | 1,913 | 100 | 65.1 | 34.6 | -- | 0.3 | -- |
| | Test | 1,348 | 100 | 63.6 | 36.4 | -- | -- | -- |
| Store B | Pretest | 1,446 | 100 | 59.8 | 39.4 | -- | .7 | 0.1 |
| | Test | 2,270 | 100 | 74.7 | 25.2 | -- | -- | .1 |
| Sub-total | Pretest | 3,359 | 100 | 62.8 | 36.6 | -- | .5 | .1 |
| | Test | 3,618 | 100 | 70.5 | 29.4 | -- | -- | .1 |
| Pull dates: | | | | | | | | |
| Store D | Pretest | 1,783 | 100 | 100.0 | -- | -- | -- | -- |
| | Test | 1,737 | 100 | 100.0 | -- | -- | -- | -- |
| Store E | Pretest | 1,391 | 100 | 68.3 | 31.7 | -- | -- | -- |
| | Test | 1,365 | 100 | 69.3 | 28.9 | -- | 1.8 | -- |
| Store F | Pretest | 912 | 100 | 94.2 | 5.5 | -- | .1 | .2 |
| | Test | 3,212 | 100 | 48.0 | 50.5 | -- | -- | 1.5 |
| Sub-total | Pretest | 4,086 | 100 | 87.9 | 12.0 | -- | -- | .1 |
| | Test | 6,314 | 100 | 66.9 | 31.9 | -- | .4 | .8 |
| Control stores: | | | | | | | | |
| Store I | Pretest | 1,439 | 100 | 73.5 | -- | -- | 26.5 | -- |
| | Test | 4,324 | 100 | 51.6 | 48.3 | -- | .1 | -- |

## Costs of the Open-Dating Experiment

Much of the concern about, and some resistance to, open dates on food items has centered around possible costs to retail foodstores. Discussion of cost has involved two aspects: the actual costs of new equipment, labels, and labor needed to adopt a dating system; and the effect on operations, particularly product waste (shrink) if customers were to buy selectively on the basis of dates. The latter aspect was shown not to be a problem during the test.

As part of the experimental open-dating program, the participating chain revealed the costs it incurred in conducting the test so that evaluation of the changeover to open dates could be made.

According to chain representatives, the total cost of the experiment was $21,000. Supervisory and administrative costs were $12,200; in-store costs (labor, equipment, and supplies) were $8,800. Most of these costs were due to the experimental nature of the open-dating program--that is, recordkeeping, extra labeling, and special supervision. Since all open dating was done at the retail store in this experiment, there was some duplication of effort that would not be required during regular use of open dating. For example, store personnel dated fluid milk cartons with a label gun that printed three-line labels. Such additional labor and equipment would not be necessary if open dates were the usual procedure, because dating would be done at the point of processing.

The only normal store-level costs incurred would be for equipment needed to date products usually labeled at the store--meat, produce, and some dairy items. The costs described by chain representatives as those required to convert an existing store would include the price of two new scaling systems--one for random-weight meats and one for random-weight produce. In addition, three label guns would be needed (one each for the meat, produce, and dairy departments), as well as additional labels. Conversion costs would then range from $300 to $400 per store, depending on the type of label guns selected. The cost to institute open dating in a new store would range from $100 to $200 (again depending on the type of label gun) because the necessary scaling system and some type of label guns would be routine store-opening costs.

Open dates on food products, particularly pull dates, seem to encourage good handling practices by making store personnel aware of the need for rotation. Confusion among clerks about when to rotate or remove products is reduced, and closer attention is given to expediting sale of products near the end of their shelf life so they do not have to be discarded. In view of the substantial overall reductions in losses realized during the open-dating experiment, it seems that closer attention to handling encouraged by open dates helps keep losses under better control and more than compensates for changeover costs.

## APPENDIX A--RESEARCH METHODOLOGY, QUESTIONNAIRE, AND SAMPLE DEMOGRAPHICS FOR THE NATIONAL TELEPHONE SURVEY

### Methodology

The universe for this sample consisted of all U.S. residents aged 18 or over who were living in telephone households and who were the principal grocery shoppers for their households.

The largest phone books in which each of the Opinion Research Corporation's national probability sample locations is found provided the total universe of phone numbers for the interviewing service.

A random selection of phone numbers was made from each book and several random numbers substituted for the last two digits of each selected number. (This was to include unlisted numbers in the sample.) A representative sample was then drawn from this reservoir.

If the designated respondent was busy, or not at home, the interviewers were instructed to make an appointment to call at a more convenient time. If no answer was received on the first call, the interviewer made two callbacks at different times of the day to attempt to complete the interview. (A busy signal was not considered to be a call.) Nonworking numbers and those which turned out to be business telephones were dropped from the sample.

The survey was based on 1,531 telephone interviews conducted during June 22 to June 28, 1971.

### Statistical Significance Guidelines

Since the findings presented in this report are based on a sample, they are subject to some error. Table A-1 shows approximate sampling tolerances for various percentages at the 95-percent confidence level. For example, if we consider a result of 50 percent based on the total sample of 1,531 interviews, we can be 95 percent sure that the true result is contained within the range of 47-53 percent (3 percentage points above or below the sample result). When percentage results for subgroups of the total sample are being considered, the possible error due to sampling is somewhat greater.

Table A-1--Approximate sampling tolerances, national telephone survey, June 1971

| Size of sample on which survey result is based | Approximate sampling tolerances for a survey percentage at or near these levels: | | | | |
|---|---|---|---|---|---|
| | 10% or 90% | 20% or 80% | 30% or 70% | 40% or 60% | 50% |
| | Percent | | | | |
| 1,531 | 2 | 3 | 3 | 3 | 3 |
| 1,300 | 2 | 3 | 3 | 3 | 3 |
| 1,100 | 2 | 3 | 3 | 4 | 4 |
| 1,000 | 2 | 3 | 4 | 4 | 4 |
| 900 | 2 | 3 | 4 | 4 | 4 |
| 750 | 3 | 4 | 4 | 4 | 4 |
| 600 | 3 | 4 | 5 | 5 | 5 |
| 550 | 3 | 4 | 5 | 5 | 5 |
| 500 | 3 | 4 | 5 | 5 | 5 |
| 450 | 3 | 5 | 5 | 6 | 6 |
| 400 | 4 | 5 | 6 | 6 | 6 |
| 350 | 4 | 5 | 6 | 7 | 7 |
| 300 | 4 | 6 | 6 | 7 | 7 |
| 250 | 5 | 6 | 7 | 8 | 8 |
| 200 | 5 | 7 | 8 | 8 | 9 |
| 150 | 6 | 8 | 9 | 10 | 10 |
| 100 | 7 | 10 | 11 | 12 | 12 |

In addition, the reader may wish to assess the extent to which an observed percentage difference is statistically significant. Table A-2 provides some general guidelines which can be used for this purpose. For example, if a comparison was being made between groups of 750 and 500 subjects, and the percentages being compared are at or near the 40- or 60-percent levels, the observed difference in the percentages would have to be 7 or more points for it to be statistically significant at the 0.05 probability level.

Table A-2--Statistical significance of various sample sizes, national telephone survey, June 1971

| Size of sample compared | 50% | 40% or 60% | 30% or 70% | 20% or 80% | 10% or 90% |
|---|---|---|---|---|---|
| | | | Percent | | |
| 1,500 and 1,500 | 4 | 4 | 4 | 4 | 3 |
| 750 | 5 | 5 | 5 | 4 | 3 |
| 500 | 6 | 6 | 6 | 5 | 4 |
| 100 | 13 | 12 | 12 | 10 | 8 |
| 1,000 and 1,000 | 6 | 5 | 5 | 4 | 4 |
| 750 | 6 | 6 | 5 | 5 | 4 |
| 500 | 7 | 7 | 6 | 5 | 4 |
| 100 | 13 | 13 | 12 | 10 | 8 |
| 750 and 750 | 6 | 6 | 6 | 5 | 4 |
| 500 | 7 | 7 | 6 | 6 | 4 |
| 100 | 13 | 13 | 12 | 10 | 8 |
| 500 and 500 | 8 | 8 | 7 | 6 | 5 |
| 100 | 14 | 14 | 13 | 11 | 8 |
| 250 and 250 | 11 | 11 | 10 | 8 | 7 |
| 100 | 14 | 14 | 13 | 12 | 9 |
| 100 and 100 | 17 | 17 | 16 | 14 | 10 |

## Questionnaire

Hello, I'm _____, calling from Opinion Research Corporation in Princeton, N.J. We are talking with people about the purchase and use of food products. May I speak to the member of your family who usually does the grocery shopping for the family?

CRI Q. #

(2) 1. Is the store where you do most of your grocery shopping one of a chain of supermarkets or a local neighborhood store, or what?

1 ONE OF A CHAIN OF SUPERMARKETS
2 A LOCAL STORE
3 OTHER (Specify): _____
4 DON'T KNOW

(IF "ONE OF A CHAIN OF SUPERMARKETS" OR "OTHER", ASK):

(3) 2. About how many checkout counters or cash registers does this store have?

1 _____ CHECKOUTS
2 DON'T KNOW

(1) 3. What is the name of the store where you do most of your grocery shopping?

(28) 4. In general, how satisfied are you with the freshness of the food you buy throughout the year--very satisfied, fairly satisfied, somewhat dissatisfied, or very dissatisfied?

1 VERY SATISFIED
2 FAIRLY SATISFIED
3 SOMEWHAT DISSATISFIED
4 VERY DISSATISFIED
5 NO OPINION

(29) 5. About how often do you buy food that you find is stale, spoiled, or bad in some way when you first get it home--very often, fairly often, hardly ever, or never?

1 VERY OFTEN
2 FAIRLY OFTEN
3 HARDLY EVER
4 NEVER
5 NO OPINION

(32) 6. When you buy food that is stale or bad, do you generally ask for your money back, ask for a replacement, or just forget about it?

1 MONEY BACK
2 REPLACEMENT
3 FORGET IT --SKIP TO Q. 8
4 DON'T KNOW

(IF "MONEY BACK" OR "REPLACEMENT" ON Q. 6, ASK):

(33) 7. The last time you asked for your money back or a replacement, did the company or store satisfy you or not?

1 YES
2 NO
3 DON'T KNOW

(30) 8. As far as you know, do most grocery stores have a money-back guarantee on the food they sell?

1 YES
2 NO
3 DON'T KNOW

(31) 9. As far as you know, do most food manufacturers have a money-back guarantee on the food they sell?

1 YES
2 NO
3 DON'T KNOW

(4) 10. Some grocery stores and food manufacturers have been putting a date on certain food products to tell the shopper how fresh they are. Have you noticed any dated food products in your store or not?

1 YES
2 NO --SKIP TO Q. 15
3 DON'T KNOW

(IF "YES" ON Q. 10, ASK):

(5) 11. On which food products have you noticed a date?

1 MEAT
2 FRESH VEGETABLES AND FRUIT
3 MILK
4 COTTAGE CHEESE
5 OTHER DAIRY PRODUCTS
6 REFRIGERATED DOUGH
7 BREAD
8 OTHER (Specify): _____
9 DON'T KNOW

(6) 12. What do you think the date means? (DO NOT READ PRECODES.)

1 THE DATE THE PRODUCT WAS PACKED/PROCESSED
2 THE DATE THE PRODUCT WAS DELIVERED TO THE STORE/PUT ON THE SHELF
3 THE LAST DATE THE PRODUCT SHOULD BE SOLD
4 THE LAST DATE THE PRODUCT SHOULD BE USED
5 OTHER (Specify):_____
_____
6 DON'T KNOW

(7) 13. On those items that are marked with a date, do you sometimes sort through packages looking for the freshest item, or not?

1 YES
2 NO

(IF "YES" ON Q. 13, ASK):

(8) 14. When you sort through items with a date on them, do you usually find some that are fresher than others or not?

1 YES
2 NO
3 DON'T KNOW

(9) 15. There are various dates that a store could put on packages, such as the date the product was packed or processed, the date it was delivered to the store, the last date it should be sold, and the last date it should be used. Which date do you think would be most helpful to you?

1 THE DATE THE PRODUCT WAS MADE
2 THE DATE IT WAS DELIVERED
3 THE LAST DATE IT SHOULD BE SOLD
4 THE LAST DATE IT SHOULD BE USED
5 OTHER (Specify):_____
_____
6 NO OPINION

(10) 16. Please think back over the past 2 weeks. Other than leftovers, have you or have you not thrown away any food that might still be good but you thought you had it too long?

1 HAVE
2 HAVE NOT
3 DON'T KNOW

(IF "HAVE" ON Q. 16, ASK):

(11) 17. Which foods have you thrown away because you thought you had them too long?

_____
_____
_____
_____
_____

(12,19,22) 18. Thinking back over the past 2 weeks, have you bought any fresh or frozen fruits or vegetables, meats, bread, dairy, or other food products that you thought were good, but that turned out not to be good or that spoiled before you thought they should?

(IF "YES" ON Q. 18, ASK): ←

(13,20,23) 19. What types of food spoiled or were not good? (ANY OTHERS?)

1 YES
2 NO
3 DON'T KNOW --SKIP TO Q. 25

ASK FOR EACH TYPE OF FOOD MENTIONED ON Q. 19:

| | 20. Was that food canned, frozen, fresh, or what? (14, 24) | | | | 21. How did you know it wasn't good? (15, 21, 25) | | | | | 22. How many days did you have it before you noticed it wasn't good? (16, 26) | 23. Was it bad when you first bought it, or did it go bad while stored at home? (17, 18, 27) | | | 24. Did you use it anyway or throw it out? (NEW) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Canned | Frozen | Fresh | Other | Color | Texture | Smell | Taste | Other | No. of days | Bad when bought | Went bad at home | Don't know | Used | Threw out | Don't know |
| Fresh meats | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Cooked meats (cold cuts) | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Tomatoes | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Other vegetables | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Bananas | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Other fruits | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Milk | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Cream | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Cottage cheese | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Other dairy products | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Bread | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Crackers, cookies, cereals | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |
| Other (specify) | 1 | 2 | 3 | ____ | 1 | 2 | 3 | 4 | ____ | _____ | 1 | 2 | 3 | 1 | 2 | 3 |

Now a few questions for background purposes.

(35) 25. How old is your refrigerator?

1 _____ YEARS
2 DON'T HAVE A REFRIGERATOR
3 DON'T KNOW

(36) 26. What is your age?

1 18 - 24 YEARS
2 25 - 34
3 35 - 54
4 55 - 64
5 65 OR OVER
6 NOT REPORTED

(37) 27. What is your total family income before taxes?

1 UNDER $3,000
2 $3,000 - $4,999
3 $5,000 - $9,999
4 $10,000 - $14,999
5 $15,000 AND OVER
6 NOT REPORTED

(38) 28. About how many years of schooling have you completed?

1 8TH GRADE OR LESS
2 HIGH SCHOOL INCOMPLETE
3 HIGH SCHOOL COMPLETE
4 COLLEGE INCOMPLETE
5 COLLEGE COMPLETE
6 GRADUATE SCHOOL
7 TRADE/VOCATIONAL SCHOOL
8 NOT REPORTED

(39) 29. How many persons live in your household?

1 ONE
2 TWO
3 THREE
4 FOUR
5 FIVE OR MORE
6 NOT REPORTED

(NEW) 30. I am going to read you a list of places where people live. Do you live in a large city (1 million people or more), in a smaller city (100,000-1 million people), in the suburb of a city, in a small town, or in a rural area?

1 IN A LARGE CITY
2 IN A SMALLER CITY
3 IN A SUBURB OF A CITY
4 IN A SMALL TOWN
5 IN A RURAL AREA
6 OTHER (Specify):_____
_____
7 DON'T KNOW

(40) 31. (INTERVIEWER: OBSERVE AND RECORD) Sex: 1 MALE
2 FEMALE

LENGTH OF INTERVIEW:_____

DAY: 1 SUN 2 MON 3 TUES 4 WED 5 THURS 6 FRI 7 SAT

TIME: 1 MORNING (before 12:00 noon)
2 AFTERNOON (12:00-6:00 p.m.)
3 EVENING (6:00-9:00 p.m.)

## Sample Demographics

The following questions were asked of all respondents in the telephone survey. Percentages describe the demographic makeup of the sample.

1. What is your age?

| | Percent |
|---|---|
| 18-24 years | 11 |
| 25-34 years | 20 |
| 35-54 years | 39 |
| 55-64 years | 14 |
| 65 or over | 14 |
| Not reported | 2 |

2. What is your total family income before taxes?

| | Percent |
|---|---|
| Under $3,000 | 8 |
| $3,000-$4,999 | 10 |
| $5,000-$9,999 | 26 |
| $10,000-$14,999 | 20 |
| $15,000 and over | 12 |
| Not reported | 24 |

3. About how many years of schooling have you completed?

| | Percent |
|---|---|
| 8th grade or less | 13 |
| High school incomplete | 14 |
| High school complete | 36 |
| College incomplete | 17 |
| College complete | 10 |
| Graduate school | 5 |
| Trade/vocational school | 2 |
| Not reported | 3 |

4. How many persons live in your household?

| | Percent |
|---|---|
| 1 | 9 |
| 2 | 29 |
| 3 | 18 |
| 4 | 18 |
| 5 or more | 25 |
| Not reported | 1 |

5. I am going to read you a list of places where people live. Do you live in a large city (1 million people or more), in a smaller city (100,000-1 million people), in a suburb of a city, in a small town, or in a rural area?

| | Percent |
|---|---|
| In a large city (1 million people or more) | 19 |
| In a smaller city (100,000-1 million people) | 17 |
| In a suburb of a city | 20 |
| In a small town | 29 |
| In a rural area | 13 |
| Don't know, no answer | 2 |

6. Sex

| | Percent |
|---|---|
| Male | 12 |
| Female | 87 |
| Not reported | 1 |

7. How old is your refrigerator?

| | Percent |
|---|---|
| Less than 4 years old | 34 |
| 4-5 years old | 20 |
| 6-10 years old | 24 |
| Over 10 years old | 15 |
| Don't know | 7 |

8. Is the store where you do most of your grocery shopping one of a chain of supermarkets or a local neighborhood store?

| | Percent |
|---|---|
| One of a chain of supermarkets | 78 |
| A local store | 18 |
| Other | 4 |

9. About how many checkout counters or cash registers does this store have? (Asked of all respondents except those who shop at their neighborhood store.)

| A. Percent asked this question | Percent |
|---|---|
| | 82 |
| 1-4 checkout counters | 15 |
| 5-10 checkout counters | 52 |
| More than 10 checkout counters | 6 |
| Don't know | 9 |

Appendix B--Tables--QUESTIONS ASKED DURING THE NATIONAL FOOD SHOPPER TELEPHONE SURVEY, JUNE 1971

Table B-1--Question: "Thinking back over the past 2 weeks, have you bought any food that you thought was good, but that spoiled or became stale before you thought it should?"

| Item | Total 1/ responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 1,531 | 18 | 81 | 1 |
| Men | 189 | 12 | 87 | 1 |
| Women | 1,332 | 19 | 80 | 1 |
| Age level: | | | | |
| 18-24 years of age | 173 | 28 | 72 | 0 |
| 25-34 years | 303 | 21 | 78 | 1 |
| 35-54 years | 591 | 17 | 83 | 0 |
| 55-64 years | 212 | 18 | 81 | 1 |
| 65 and over | 219 | 11 | 87 | 2 |
| Family income: | | | | |
| Under $5,000 | 279 | 17 | 82 | 1 |
| $5,000-$9,999 | 390 | 17 | 82 | 1 |
| $10,000-$14,999 | 303 | 21 | 79 | 0 |
| $15,000 and over | 187 | 26 | 74 | 0 |
| Level of education: | | | | |
| High school not completed | 411 | 14 | 85 | 1 |
| High school graduate | 585 | 19 | 81 | 0 |
| Attended college | 259 | 23 | 76 | 1 |
| College graduate | 223 | 22 | 78 | 0 |
| Size of household: | | | | |
| 1 person | 137 | 12 | 87 | 1 |
| 2-4 persons | 990 | 18 | 81 | 1 |
| 5 or more persons | 384 | 21 | 78 | 1 |
| Region where respondent lived: | | | | |
| East | 357 | 22 | 78 | 0 |
| Midwest | 441 | 17 | 81 | 2 |
| South | 477 | 17 | 82 | 1 |
| West | 256 | 18 | 82 | 0 |
| Where respondent lived: | | | | |
| Large city | 289 | 19 | 79 | 2 |
| Smaller city | 259 | 19 | 79 | 2 |
| Suburb | 307 | 21 | 79 | 0 |
| Small town, rural | 646 | 17 | 83 | 0 |

1/ Subgroups do not always add to 1,531 because demographic information was not available for all respondents.

Continued

Table B-1--Question: "Thinking back over the past 2 weeks, have you bought any food that you thought was good, but that spoiled or became stale before you thought it should?"--Continued

| Item | Total 1/ responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Age of refrigerator in household: | | | | |
| 3 years or less | 516 | 19 | 80 | 1 |
| 4-5 years | 312 | 21 | 78 | 1 |
| 6-10 years | 375 | 18 | 81 | 1 |
| Over 10 years | 224 | 16 | 83 | 1 |
| Where respondent shopped: | | | | |
| Supermarket | 1,189 | 19 | 80 | 1 |
| Neighborhood store | 278 | 16 | 83 | 1 |
| Other | 64 | 19 | 81 | 0 |
| Chain shopped: | | | | |
| Chain 1 | 101 | 14 | 86 | 0 |
| Chain 2 | 79 | 20 | 80 | 0 |
| Chain 3 | 98 | 11 | 89 | 0 |
| Chain 4 | 42 | 19 | 81 | 0 |
| Other supermarkets | 937 | 20 | 79 | 1 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 819 | 12 | 87 | 1 |
| Fairly satisfied | 599 | 21 | 78 | 1 |
| Not satisfied | 107 | 43 | 56 | 1 |
| How often food bought was spoiled: | | | | |
| Often | 97 | 56 | 44 | 0 |
| Hardly ever | 924 | 19 | 80 | 1 |
| Never | 508 | 9 | 90 | 1 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 18 | 82 | 0 |
| 2 | 207 | 24 | 75 | 1 |
| 3 or more | 118 | 28 | 72 | 0 |
| None | 908 | 16 | 83 | 1 |
| Sorting: | | | | |
| Sort for date | 387 | 24 | 75 | 1 |
| Don't sort | 236 | 17 | 83 | 0 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 234 | 19 | 80 | 1 |
| 5-10 | 799 | 19 | 80 | 1 |
| Over 10 | 89 | 24 | 76 | 0 |

1/ Subgroups do not always add to 1,531 because demographic information was not available for all respondents.

Table B-2--Question: "Was that food canned, frozen, or what?"

| Type of food | Total responding | Canned | Frozen | Fresh | Other | Not reported |
|---|---|---|---|---|---|---|
| | Number | | | Percent | | |
| Fresh meat | 49 | 0 | 0 | 100 | 0 | 0 |
| Fresh poultry | 13 | 0 | 0 | 100 | 0 | 0 |
| Fresh fish | 2 | 0 | 0 | 100 | 0 | 0 |
| Processed meat: | | | | | | |
| Luncheon meats | 16 | 0 | 0 | 81 | 0 | 19 |
| Wieners | 6 | 0 | 0 | 100 | 0 | 0 |
| Sausages | 3 | 0 | 0 | 100 | 0 | 0 |
| Bacon | 8 | 0 | 13 | 75 | 0 | 12 |
| Whole ham | 5 | 20 | 0 | 40 | 40 | 0 |
| Dairy products: | | | | | | |
| Milk | 39 | 5 | 0 | 92 | 0 | 3 |
| Cream | 7 | 0 | 0 | 100 | 0 | 0 |
| Cottage cheese | 23 | 0 | 0 | 100 | 0 | 0 |
| Other dairy products | 17 | 0 | 6 | 65 | 6 | 23 |
| Baked goods: | | | | | | |
| Bread | 25 | 4 | 4 | 84 | 4 | 4 |
| Rolls | 7 | 29 | 14 | 43 | 14 | 0 |
| Snack items: | | | | | | |
| Potato chips | 6 | 0 | 0 | 100 | 0 | 0 |
| Other snack items | 5 | 0 | 0 | 20 | 60 | 20 |
| Fresh vegetables: | | | | | | |
| Lettuce | 19 | 0 | 0 | 100 | 0 | 0 |
| Tomatoes | 18 | 6 | 0 | 83 | 0 | 11 |
| Potatoes | 14 | 0 | 7 | 93 | 0 | 0 |
| Other vegetables | 27 | 11 | 4 | 78 | 0 | 7 |
| Fresh fruits: | | | | | | |
| Bananas | 7 | 0 | 0 | 100 | 0 | 0 |
| Oranges | 10 | 0 | 10 | 90 | 0 | 0 |
| Apples | 8 | 13 | 0 | 87 | 0 | 0 |
| Other fruits | 27 | 7 | 0 | 85 | 0 | 8 |
| Other foods | 16 | 12 | 19 | 44 | 25 | 0 |

Table B-3--Question: "How did you know it was bad?"

| Type of food | Total responding | Color | Texture | Smell | Taste | Other | Not reported |
|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | |
| Fresh meat | 49 | 33 | 16 | 71 | 12 | 2 | 0 |
| Fresh poultry | 13 | 31 | 23 | 85 | 15 | 0 | 0 |
| Fresh fish | 2 | 100 | 50 | 100 | 0 | 0 | 0 |
| Processed meat: | | | | | | | |
| Luncheon meats | 16 | 25 | 25 | 50 | 13 | 6 | 6 |
| Wieners | 6 | 33 | 33 | 50 | 33 | 0 | 0 |
| Sausages | 3 | 33 | 33 | 0 | 67 | 0 | 0 |
| Bacon | 8 | 63 | 13 | 38 | 13 | 0 | 0 |
| Whole ham | 5 | 60 | 20 | 40 | 0 | 0 | 0 |
| Dairy products: | | | | | | | |
| Milk | 39 | 10 | 15 | 54 | 59 | 0 | 0 |
| Cream | 7 | 14 | 29 | 14 | 57 | 0 | 0 |
| Cottage cheese | 23 | 35 | 9 | 48 | 35 | 4 | 9 |
| Other dairy products | 17 | 24 | 29 | 35 | 41 | 6 | 0 |
| Baked goods: | | | | | | | |
| Bread | 25 | 28 | 72 | 16 | 16 | 0 | 0 |
| Rolls | 7 | 29 | 43 | 14 | 0 | 29 | 0 |
| Snack items: | | | | | | | |
| Potato chips | 6 | 0 | 33 | 17 | 50 | 0 | 0 |
| Other snack items | 5 | 0 | 40 | 0 | 60 | 20 | 0 |
| Fresh vegetables: | | | | | | | |
| Lettuce | 19 | 68 | 42 | 0 | 5 | 0 | 0 |
| Tomatoes | 18 | 33 | 56 | 11 | 17 | 17 | 0 |
| Potatoes | 14 | 29 | 50 | 14 | 0 | 14 | 7 |
| Other vegetables | 27 | 52 | 33 | 15 | 7 | 0 | 4 |
| Fresh fruits: | | | | | | | |
| Bananas | 7 | 57 | 43 | 14 | 0 | 0 | 0 |
| Oranges | 10 | 20 | 80 | 0 | 10 | 0 | 0 |
| Apples | 8 | 38 | 50 | 25 | 13 | 13 | 0 |
| Other fruits | 27 | 30 | 30 | 19 | 15 | 19 | 4 |
| Other foods | 16 | 13 | 25 | 25 | 31 | 13 | 0 |

B-4--Two questions: "How many days did you have it before you noticed it wasn't good?" "Was it bad when you first bought it or did it go bad while stored at home?"

| Type of food | Total respond-ing | Noticed spoilage-- Same day | After 1-2 days | After 3-4 days | After 5 or more days | Not report-ed | Bad when bought | Went bad at home | Don't know |
|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | Percent | | |
| Fresh meat | 49 | 18 | 39 | 31 | 10 | 2 | 47 | 45 | 8 |
| Fresh poultry | 13 | 46 | 31 | 8 | 15 | 0 | 77 | 23 | 0 |
| Fresh fish | 2 | 50 | 50 | 0 | 0 | 0 | 100 | 0 | 0 |
| Processed meat: | | | | | | | | | |
| Luncheon meats | 16 | 25 | 25 | 19 | 25 | 6 | 56 | 38 | 6 |
| Wieners | 6 | 16 | 50 | 17 | 17 | 0 | 67 | 33 | 0 |
| Sausages | 3 | 0 | 100 | 0 | 0 | 0 | 67 | 33 | 0 |
| Bacon | 8 | 0 | 50 | 25 | 25 | 0 | 50 | 50 | 0 |
| Whole ham | 5 | 0 | 20 | 60 | 20 | 0 | 20 | 60 | 20 |
| Dairy products: | | | | | | | | | |
| Milk | 39 | 16 | 46 | 25 | 13 | 0 | 36 | 56 | 8 |
| Cream | 7 | 57 | 0 | 43 | 0 | 0 | 71 | 29 | 0 |
| Cottage cheese | 23 | 39 | 22 | 22 | 8 | 9 | 52 | 35 | 13 |
| Other dairy products | 17 | 29 | 36 | 23 | 12 | 0 | 65 | 29 | 6 |
| Baked goods: | | | | | | | | | |
| Bread | 25 | 32 | 16 | 32 | 12 | 8 | 44 | 52 | 4 |
| Rolls | 7 | 14 | 0 | 57 | 14 | 15 | 43 | 43 | 14 |
| Snack items: | | | | | | | | | |
| Potato chips | 6 | 33 | 34 | 33 | 0 | 0 | 67 | 33 | 0 |
| Other snack items | 5 | 60 | 20 | 0 | 20 | 0 | 60 | 0 | 40 |
| Fresh vegetables: | | | | | | | | | |
| Lettuce | 19 | 16 | 26 | 53 | 5 | 0 | 47 | 42 | 11 |
| Tomatoes | 18 | 33 | 22 | 45 | 0 | 0 | 55 | 28 | 17 |
| Potatoes | 14 | 22 | 14 | 22 | 35 | 7 | 50 | 29 | 21 |
| Other vegetables | 27 | 11 | 30 | 41 | 15 | 3 | 52 | 44 | 4 |
| Fresh fruits: | | | | | | | | | |
| Bananas | 7 | 14 | 72 | 14 | 0 | 0 | 43 | 57 | 0 |
| Oranges | 10 | 30 | 10 | 30 | 30 | 0 | 40 | 40 | 20 |
| Apples | 8 | 38 | 25 | 25 | 0 | 12 | 63 | 25 | 12 |
| Other fruits | 27 | 44 | 26 | 19 | 8 | 3 | 59 | 22 | 19 |
| Other foods | 16 | 44 | 25 | 6 | 18 | 7 | 81 | 19 | 0 |

Table B-5--Question: "Did you use it anyway, take it back to the store, or throw it out?"

| Type of food | Total responding | Used | Took back | Threw out | Don't know |
|---|---|---|---|---|---|
| | Number | Percent | | | |
| Fresh meat | 49 | 14 | 18 | 69 | 0 |
| Fresh poultry | 13 | 31 | 15 | 54 | 0 |
| Fresh fish | 2 | 0 | 0 | 100 | 0 |
| Processed meat: | | | | | |
| Luncheon meats | 16 | 0 | 19 | 75 | 6 |
| Wieners | 6 | 0 | 0 | 100 | 0 |
| Sausages | 3 | 0 | 0 | 100 | 0 |
| Bacon | 8 | 13 | 13 | 62 | 12 |
| Whole ham | 5 | 0 | 20 | 80 | 0 |
| Dairy products: | | | | | |
| Milk | 39 | 10 | 8 | 82 | 0 |
| Cream | 7 | 0 | 71 | 29 | 0 |
| Cottage cheese | 23 | 4 | 30 | 57 | 9 |
| Other dairy products | 17 | 12 | 17 | 65 | 6 |
| Baked goods: | | | | | |
| Bread | 25 | 52 | 4 | 44 | 4 |
| Rolls | 7 | 0 | 29 | 57 | 14 |
| Snack items: | | | | | |
| Potato chips | 6 | 17 | 0 | 83 | 0 |
| Other snack items | 5 | 40 | 0 | 60 | 0 |
| Fresh vegetables: | | | | | |
| Lettuce | 19 | 21 | 0 | 89 | 0 |
| Tomatoes | 18 | 6 | 6 | 94 | 0 |
| Potatoes | 14 | 22 | 14 | 57 | 7 |
| Other vegetables | 27 | 22 | 0 | 78 | 4 |
| Fresh fruits: | | | | | |
| Bananas | 7 | 0 | 0 | 100 | 0 |
| Oranges | 10 | 10 | 0 | 80 | 10 |
| Apples | 8 | 25 | 0 | 75 | 0 |
| Other fruits | 27 | 11 | 4 | 74 | 11 |
| Other foods | 16 | 0 | 25 | 63 | 12 |

Table B-6--Question: "Please think back over the past 2 weeks. Other than leftovers, have you or have you not thrown away any food that might still be good but you thought you had it too long?"

| Item | Total responding | Have | Have not | Don't know; no answer |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 1,531 | 29 | 69 | 2 |
| Men | 189 | 22 | 75 | 3 |
| Women | 1,332 | 30 | 68 | 2 |
| Age level: | | | | |
| 18-24 years of age | 173 | 46 | 54 | 0 |
| 25-34 years | 303 | 34 | 65 | 1 |
| 35-54 years | 591 | 29 | 69 | 2 |
| 55-64 years | 212 | 23 | 74 | 3 |
| 65 and over | 219 | 16 | 81 | 3 |
| Family income: | | | | |
| Under $5,000 | 279 | 21 | 78 | 1 |
| $5,000-$9,999 | 390 | 29 | 69 | 2 |
| $10,000-$14,999 | 303 | 38 | 61 | 1 |
| $15,000 and over | 187 | 37 | 61 | 2 |
| Level of education: | | | | |
| High school not completed | 411 | 21 | 76 | 3 |
| High school graduate | 585 | 29 | 69 | 2 |
| Attended college | 259 | 34 | 65 | 1 |
| College graduate | 223 | 39 | 59 | 2 |
| Size of household: | | | | |
| 1 person | 137 | 26 | 73 | 1 |
| 2-4 persons | 990 | 29 | 69 | 2 |
| 5 or more persons | 384 | 29 | 69 | 2 |
| Region where respondent lived: | | | | |
| East | 357 | 30 | 68 | 2 |
| Midwest | 441 | 26 | 71 | 3 |
| South | 477 | 31 | 67 | 2 |
| West | 256 | 28 | 71 | 1 |
| Where respondent lived: | | | | |
| Large city | 289 | 30 | 66 | 4 |
| Smaller city | 259 | 34 | 65 | 1 |
| Suburb | 307 | 34 | 64 | 2 |
| Small town, rural | 646 | 24 | 74 | 2 |
| Age of refrigerator in household: | | | | |
| 3 years or less | 516 | 30 | 67 | 3 |
| 4-5 years | 312 | 30 | 67 | 3 |
| 6-10 years | 375 | 29 | 70 | 1 |
| Over 10 years | 224 | 24 | 75 | 1 |
| Where respondent shopped: | | | | |
| Supermarket | 1,189 | 30 | 68 | 2 |
| Neighborhood store | 278 | 24 | 74 | 2 |
| Other | 64 | 28 | 70 | 2 |

Continued

Table B-6--Question: "Please think back over the past 2 weeks. Other than leftovers, have you or have you not thrown away any food that might still be good but you thought you had it too long?"--Continued

| Item | Total responding | Have | Have not | Don't know; no answer |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 101 | 28 | 69 | 3 |
| Chain 2 | 79 | 33 | 63 | 4 |
| Chain 3 | 98 | 28 | 70 | 2 |
| Chain 4 | 42 | 29 | 69 | 2 |
| Other supermarkets | 937 | 30 | 68 | 2 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 819 | 24 | 74 | 2 |
| Fairly satisfied | 599 | 32 | 66 | 2 |
| Not satisfied | 107 | 46 | 51 | 3 |
| How often food bought was spoiled: | | | | |
| Often | 97 | 47 | 51 | 2 |
| Hardly ever | 924 | 33 | 65 | 2 |
| Never | 508 | 17 | 81 | 2 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 31 | 68 | 1 |
| 2 | 207 | 34 | 63 | 3 |
| 3 or more | 118 | 42 | 58 | 0 |
| None | 908 | 26 | 72 | 2 |
| Sorting: | | | | |
| Sort for date | 387 | 35 | 63 | 2 |
| Don't sort | 236 | 30 | 69 | 1 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 234 | 26 | 71 | 3 |
| 5-10 | 799 | 32 | 67 | 1 |
| Over 10 | 89 | 38 | 61 | 1 |

Table B-7--Question: "Which foods have you thrown away because you thought you had them too long?" (Asked only of the 29 percent of respondents who had thrown away food they thought they had had too long.)

| Type of food | Percent of respondents | Type of food | Percent of respondents |
|---|---|---|---|
| Fresh meat | 8 | Snack items: | |
| Fresh poultry | 2 | Potato chips | 0 |
| Fresh fish | 1 | Other snack items | 1 |
| Processed meat: | | Fresh vegetables: | |
| Luncheon meats | 3 | Lettuce | 3 |
| Wieners | 1 | Tomatoes | 2 |
| Sausages | 1 | Potatoes | 1 |
| Bacon | 1 | Other vegetables | 7 |
| Whole ham | 0 | | |
| Dairy products: | | Fresh fruits: | |
| Milk | 2 | Bananas | 1 |
| Cream | 1 | Oranges | 0 |
| Cottage cheese | 2 | Apples | 1 |
| Other dairy products | 2 | Other fruits | 1 |
| Baked goods: | | Other foods | 4 |
| Bread | 2 | Not reported | 0 |
| Rolls | 0 | | |

Table B-8--Question: "About how often do you buy food that you find is stale, spoiled, or bad in some way when you first get it home?"

| Item | Total responding | Very often | Fairly often | Hardly ever | Never | No opinion |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Total shoppers | 1,531 | 2 | 5 | 60 | 33 | 0 |
| Men | 189 | 2 | 2 | 56 | 40 | 0 |
| Women | 1,332 | 2 | 5 | 61 | 32 | 0 |
| Age level: | | | | | | |
| 18-24 years of age | 173 | 3 | 4 | 68 | 25 | 0 |
| 25-34 years | 303 | 0 | 6 | 70 | 24 | 0 |
| 35-54 years | 591 | 2 | 4 | 63 | 31 | 0 |
| 55-64 years | 212 | 1 | 5 | 60 | 34 | 0 |
| 65 and over | 219 | 1 | 4 | 38 | 56 | 1 |
| Family income: | | | | | | |
| Under $5,000 | 279 | 1 | 4 | 56 | 39 | 0 |
| $5,000-$9,999 | 390 | 1 | 5 | 66 | 28 | 0 |
| $10,000-$14,999 | 303 | 1 | 3 | 69 | 27 | 0 |
| $15,000 and over | 187 | 0 | 9 | 64 | 27 | 0 |
| Level of education: | | | | | | |
| High school not completed | 411 | 2 | 4 | 50 | 44 | 0 |
| High school graduate | 585 | 2 | 4 | 65 | 29 | 0 |
| Attended college | 259 | 0 | 4 | 66 | 30 | 0 |
| College graduate | 223 | 2 | 7 | 64 | 27 | 0 |
| Size of household: | | | | | | |
| 1 person | 137 | 2 | 4 | 42 | 51 | 1 |
| 2-4 persons | 990 | 2 | 5 | 59 | 34 | 0 |
| 5 or more persons | 384 | 1 | 4 | 70 | 25 | 0 |
| Region where respondent lived: | | | | | | |
| East | 357 | 3 | 6 | 66 | 25 | 0 |
| Midwest | 441 | 1 | 5 | 60 | 34 | 0 |
| South | 477 | 1 | 4 | 55 | 40 | 0 |
| West | 256 | 1 | 5 | 62 | 32 | 0 |
| Where respondent lived: | | | | | | |
| Large city | 289 | 3 | 3 | 59 | 35 | 0 |
| Smaller city | 259 | 1 | 3 | 56 | 40 | 0 |
| Suburb | 307 | 1 | 6 | 66 | 27 | 0 |
| Small town, rural | 646 | 1 | 6 | 61 | 32 | 0 |
| Age of refrigerator in household: | | | | | | |
| 3 years or less | 516 | 2 | 5 | 62 | 31 | 0 |
| 4-5 years | 312 | 2 | 6 | 63 | 29 | 0 |
| 6-10 years | 375 | 1 | 5 | 61 | 33 | 0 |
| Over 10 years | 224 | 1 | 3 | 63 | 33 | 0 |
| Where respondent shopped: | | | | | | |
| Supermarket | 1,189 | 2 | 5 | 61 | 32 | 0 |
| Neighborhood store | 278 | 1 | 4 | 59 | 36 | 0 |
| Other | 64 | 0 | 6 | 56 | 38 | 0 |

Continued

Table B-8--Question: "About how often do you buy food that you find is stale, spoiled, or bad in some way when you first get it home?"--Continued

| Item | Total responding | Very often | Fairly often | Hardly ever | Never | No opinion |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Chain shopped: | | | | | | |
| Chain 1 | 101 | 3 | 5 | 54 | 38 | 0 |
| Chain 2 | 79 | 0 | 8 | 49 | 43 | 0 |
| Chain 3 | 98 | 0 | 1 | 62 | 37 | 0 |
| Chain 4 | 42 | 2 | 7 | 57 | 34 | 0 |
| Other supermarkets | 937 | 2 | 5 | 62 | 31 | 0 |
| Satisfaction with food freshness: | | | | | | |
| Very satisfied | 819 | 1 | 1 | 52 | 46 | 0 |
| Fairly satisfied | 599 | 1 | 6 | 74 | 19 | 0 |
| Not satisfied | 107 | 9 | 31 | 48 | 11 | 1 |
| How often food bought was spoiled: | | | | | | |
| Often | 97 | 23 | 77 | 0 | 0 | 0 |
| Hardly ever | 924 | 0 | 0 | 100 | 0 | 0 |
| Never | 508 | 0 | 0 | 0 | 100 | 0 |
| Noticed how many dated products: | | | | | | |
| 1 | 283 | 1 | 6 | 66 | 27 | 0 |
| 2 | 207 | 2 | 3 | 69 | 26 | 0 |
| 3 or more | 118 | 1 | 6 | 64 | 29 | 0 |
| None | 908 | 2 | 5 | 56 | 37 | 0 |
| Sorting: | | | | | | |
| Sort for date | 387 | 2 | 6 | 68 | 24 | 0 |
| Don't sort | 236 | 0 | 2 | 64 | 34 | 0 |
| Number of counters in store usually shopped: | | | | | | |
| Less than 5 | 234 | 0 | 5 | 62 | 32 | 1 |
| 5-10 | 799 | 2 | 5 | 62 | 31 | 0 |
| Over 10 | 89 | 0 | 7 | 71 | 22 | 0 |

Table B-9--Question: "In general, how satisfied are you with the freshness of the food you buy throughout the year?"

| Item | Total responding | Very satisfied | Fairly satisfied | Somewhat dissatisfied | Very dissatisfied | No opinion |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Total shoppers | 1,531 | 53 | 39 | 6 | 2 | 0 |
| Men | 189 | 56 | 37 | 5 | 1 | 1 |
| Women | 1,332 | 53 | 39 | 6 | 2 | 0 |
| Age level: | | | | | | |
| 18-24 years of age | 173 | 48 | 42 | 7 | 2 | 1 |
| 25-34 years | 303 | 42 | 48 | 9 | 1 | 0 |
| 35-54 years | 391 | 55 | 39 | 4 | 2 | 0 |
| 55-64 years | 212 | 58 | 36 | 5 | 0 | 1 |
| 65 and over | 219 | 65 | 31 | 3 | 1 | 0 |
| Family income: | | | | | | |
| Under $5,000 | 279 | 54 | 41 | 3 | 2 | 0 |
| $5,000-$9,999 | 390 | 51 | 43 | 5 | 1 | 0 |
| $10,000-$14,999 | 303 | 53 | 39 | 5 | 2 | 1 |
| $15,000 and over | 187 | 50 | 39 | 9 | 2 | 0 |
| Level of education: | | | | | | |
| High school not completed | 411 | 58 | 36 | 4 | 1 | 1 |
| High school graduate | 585 | 53 | 39 | 6 | 2 | 0 |
| Attended college | 259 | 53 | 39 | 7 | 1 | 0 |
| College graduate | 223 | 46 | 45 | 6 | 2 | 1 |
| Size of household: | | | | | | |
| 1 person | 137 | 60 | 32 | 5 | 2 | 1 |
| 2-4 persons | 990 | 54 | 39 | 6 | 1 | 0 |
| 5 or more persons | 384 | 51 | 42 | 5 | 2 | 0 |
| Region where respondent lived: | | | | | | |
| East | 357 | 48 | 42 | 7 | 3 | 0 |
| Midwest | 441 | 54 | 37 | 7 | 2 | 0 |
| South | 477 | 56 | 39 | 4 | 0 | 1 |
| West | 256 | 56 | 39 | 4 | 1 | 0 |
| Where respondent lived: | | | | | | |
| Large city | 289 | 53 | 39 | 6 | 2 | 0 |
| Smaller city | 259 | 55 | 41 | 2 | 2 | 0 |
| Suburb | 307 | 51 | 40 | 8 | 1 | 0 |
| Small town, rural | 646 | 55 | 38 | 6 | 1 | 0 |
| Age of refrigerator in household: | | | | | | |
| 3 years or less | 516 | 54 | 38 | 6 | 1 | 1 |
| 4-5 years | 312 | 47 | 45 | 5 | 2 | 1 |
| 6-10 years | 375 | 56 | 38 | 5 | 1 | 0 |
| Over 10 years | 224 | 57 | 37 | 5 | 1 | 0 |

Continued

Table B-9--Question: "In general, how satisfied are you with the freshness of the food you buy throughout the year?"--Continued

| Item | Total responding | Very satisfied | Fairly satisfied | Somewhat dissatisfied | Very dissatisfied | No opinion |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Where respondent shopped: | | | | | | |
| Supermarket | 1,189 | 53 | 40 | 5 | 1 | 1 |
| Neighborhood store | 278 | 58 | 35 | 5 | 2 | 0 |
| Other | 64 | 42 | 45 | 11 | 0 | 2 |
| Chain shopped: | | | | | | |
| Chain 1 | 101 | 49 | 41 | 7 | 3 | 0 |
| Chain 2 | 79 | 47 | 38 | 11 | 1 | 3 |
| Chain 3 | 98 | 62 | 35 | 2 | 1 | 0 |
| Chain 4 | 42 | 50 | 43 | 5 | 2 | 0 |
| Other supermarkets | 937 | 53 | 40 | 5 | 1 | 1 |
| Satisfaction with food freshness: | | | | | | |
| Very satisfied | 819 | 100 | 0 | 0 | 0 | 0 |
| Fairly satisfied | 599 | 0 | 100 | 0 | 0 | 0 |
| Not satisfied | 107 | 0 | 0 | 79 | 21 | 0 |
| How often food bought was spoiled: | | | | | | |
| Often | 97 | 16 | 39 | 32 | 12 | 1 |
| Hardly ever | 924 | 46 | 48 | 5 | 1 | 0 |
| Never | 508 | 74 | 23 | 2 | 0 | 1 |
| Noticed how many dated products: | | | | | | |
| 1 | 283 | 46 | 45 | 7 | 2 | 0 |
| 2 | 207 | 54 | 41 | 5 | 0 | 0 |
| 3 or more | 118 | 51 | 40 | 8 | 1 | 0 |
| None | 908 | 56 | 37 | 5 | 2 | 0 |
| Sorting: | | | | | | |
| Sort for date | 387 | 48 | 44 | 7 | 1 | 0 |
| Don't sort | 236 | 54 | 38 | 6 | 1 | 1 |
| Number of counters in store usually shopped: | | | | | | |
| Less than 5 | 234 | 54 | 40 | 5 | 0 | 1 |
| 5-10 | 799 | 51 | 41 | 6 | 2 | 0 |
| Over 10 | 89 | 53 | 37 | 8 | 2 | 0 |

Table B-10--Question: "When you buy food that is stale or bad, do you generally ask for your money back, ask for a replacement, or just forget about it?"

| Item | Total Responding | Money Back | Replacement | Depends | Forget it | Don't know; no answer |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Total shoppers | 1,531 | 15 | 31 | 1 | 27 | 26 |
| Men | 189 | 14 | 26 | 0 | 29 | 31 |
| Women | 1,332 | 15 | 31 | 1 | 27 | 26 |
| Age level: | | | | | | |
| 18-24 years of age | 173 | 7 | 38 | 0 | 36 | 19 |
| 25-34 years | 303 | 19 | 31 | 1 | 31 | 18 |
| 35-54 years | 591 | 16 | 33 | 1 | 25 | 25 |
| 55-64 years | 212 | 15 | 33 | 0 | 25 | 27 |
| 65 and over | 219 | 12 | 17 | 0 | 25 | 46 |
| Family income: | | | | | | |
| Under $5,000 | 279 | 14 | 26 | 0 | 27 | 33 |
| $5,000-$9,999 | 390 | 15 | 35 | 1 | 28 | 21 |
| $10,000-$14,999 | 303 | 13 | 36 | 2 | 29 | 20 |
| $15,000 and over | 187 | 22 | 31 | 1 | 26 | 20 |
| Level of education: | | | | | | |
| High school not completed | 411 | 13 | 27 | 1 | 24 | 35 |
| High school graduate | 585 | 14 | 35 | 0 | 29 | 22 |
| Attended college | 259 | 15 | 28 | 2 | 31 | 24 |
| College graduate | 223 | 19 | 32 | 0 | 27 | 22 |
| Size of household: | | | | | | |
| 1 person | 137 | 11 | 16 | 1 | 28 | 44 |
| 2-4 persons | 990 | 14 | 30 | 1 | 28 | 27 |
| 5 or more persons | 384 | 18 | 38 | 0 | 24 | 20 |
| Region where respondent lived: | | | | | | |
| East | 357 | 20 | 28 | 2 | 29 | 21 |
| Midwest | 441 | 13 | 31 | 0 | 27 | 29 |
| South | 477 | 14 | 29 | 0 | 26 | 31 |
| West | 256 | 12 | 36 | 1 | 28 | 23 |
| Where respondent lived: | | | | | | |
| Large city | 289 | 15 | 27 | 1 | 29 | 28 |
| Smaller city | 259 | 12 | 30 | 1 | 27 | 30 |
| Suburb | 307 | 18 | 31 | 1 | 28 | 22 |
| Small town, rural | 646 | 14 | 33 | 0 | 27 | 26 |
| Age of refrigerator in household: | | | | | | |
| 3 years or less | 516 | 13 | 34 | 1 | 27 | 25 |
| 4-5 years | 312 | 17 | 29 | 1 | 31 | 22 |
| 6-10 years | 375 | 14 | 32 | 1 | 28 | 25 |
| Over 10 years | 224 | 19 | 26 | 0 | 26 | 29 |
| Where respondent shopped: | | | | | | |
| Supermarket | 1,189 | 16 | 30 | 1 | 27 | 26 |
| Neighborhood store | 278 | 11 | 33 | 1 | 26 | 29 |
| Other | 64 | 9 | 28 | 2 | 30 | 31 |

Continued

Table B-10--Question: "When you buy food that is stale or bad, do you generally ask for your money back, ask for a replacement, or just forget about it?"--Continued

| Item | Total responding | Money back | Replacement | Depends | Forget it | Don't know; no answer |
|---|---|---|---|---|---|---|
| | Number | Percent | | | | |
| Chain shopped: | | | | | | |
| Chain 1 | 101 | 20 | 30 | 0 | 19 | 31 |
| Chain 2 | 79 | 11 | 27 | 0 | 29 | 33 |
| Chain 3 | 98 | 14 | 34 | 0 | 23 | 29 |
| Chain 4 | 42 | 17 | 31 | 0 | 26 | 26 |
| Other supermarkets | 937 | 15 | 30 | 1 | 29 | 25 |
| Satisfaction with food freshness: | | | | | | |
| Very satisfied | 819 | 13 | 29 | 0 | 22 | 36 |
| Fairly satisfied | 599 | 16 | 34 | 1 | 34 | 15 |
| Not satisfied | 107 | 27 | 27 | 2 | 33 | 11 |
| How often food bought was spoiled: | | | | | | |
| Often | 97 | 21 | 24 | 2 | 50 | 3 |
| Hardly ever | 924 | 20 | 41 | 1 | 36 | 2 |
| Never | 508 | 5 | 12 | 0 | 8 | 75 |
| Noticed how many dated products: | | | | | | |
| 1 | 283 | 17 | 34 | 1 | 27 | 21 |
| 2 | 207 | 17 | 32 | 1 | 29 | 21 |
| 3 or more | 118 | 13 | 38 | 1 | 29 | 19 |
| None | 908 | 14 | 29 | 0 | 27 | 30 |
| Sorting: | | | | | | |
| Sort for date | 387 | 18 | 35 | 2 | 29 | 16 |
| Don't sort | 236 | 14 | 31 | 0 | 27 | 28 |
| Number of counters in store usually shopped: | | | | | | |
| Less than 5 | 234 | 12 | 35 | 1 | 27 | 25 |
| 5-10 | 799 | 17 | 30 | 1 | 28 | 24 |
| Over 10 | 89 | 18 | 35 | 0 | 30 | 17 |

Table B-11--Question: "The last time you asked for your money back or a replacement, did the company or store satisfy you or not?" (Asked of those who asked for their money back or a replacement when bought food that is stale or bad.)

| Item | Total responding | Yes | No |
|---|---|---|---|
| | Number | Percent | |
| Total shoppers | 696 | 96 | 1 |
| Men | 76 | 96 | 0 |
| Women | 616 | 96 | 1 |
| Age level: | | | |
| 18-24 years of age | 78 | 97 | 0 |
| 25-34 years | 152 | 95 | 1 |
| 35-54 years | 287 | 98 | 0 |
| 55-64 years | 102 | 95 | 2 |
| 65 and over | 64 | 86 | 0 |
| Family income: | | | |
| Under $5,000 | 110 | 94 | 2 |
| $5,000-$9,999 | 196 | 96 | 1 |
| $10,000-$14,999 | 149 | 95 | 1 |
| $15,000 and over | 99 | 98 | 0 |
| Level of education: | | | |
| High school not completed | 165 | 95 | 0 |
| High school graduate | 288 | 95 | 1 |
| Attended college | 111 | 95 | 1 |
| College graduate | 115 | 97 | 1 |
| Size of household: | | | |
| 1 person | 37 | 89 | 3 |
| 2-4 persons | 436 | 96 | 0 |
| 5 or more persons | 214 | 97 | 1 |
| Region where respondent lived: | | | |
| East | 172 | 96 | 1 |
| Midwest | 197 | 96 | 0 |
| South | 203 | 94 | 1 |
| West | 124 | 97 | 1 |
| Where respondent lived: | | | |
| Large city | 120 | 94 | 1 |
| Smaller city | 110 | 94 | 1 |
| Suburb | 149 | 96 | 1 |
| Small town, rural | 305 | 97 | 0 |
| Age of refrigerator in household: | | | |
| 3 years or less | 244 | 94 | 1 |
| 4-5 years | 145 | 95 | 1 |
| 6-10 years | 174 | 97 | 0 |
| Over 10 years | 101 | 99 | 0 |
| Where respondent shopped: | | | |
| Supermarket | 549 | 95 | 1 |
| Neighborhood store | 123 | 98 | 0 |
| Other | 24 | 96 | 0 |

Cont:

Table B-11--Question: "The last time you asked for your money back or a replacement, did the company or store satisfy you or not?" (Asked only of those who asked for their money back or a replacement when they bought food that is stale or bad.)--Continued

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 50 | 94 | 2 | 4 |
| Chain 2 | 30 | 87 | 0 | 13 |
| Chain 3 | 47 | 96 | 0 | 4 |
| Chain 4 | 20 | 95 | 5 | 0 |
| Other supermarkets | 427 | 96 | 1 | 3 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 342 | 95 | 0 | 5 |
| Fairly satisfied | 296 | 97 | 0 | 3 |
| Not satisfied | 58 | 93 | 5 | 2 |
| How often food bought was spoiled: | | | | |
| Often | 43 | 93 | 5 | 2 |
| Hardly ever | 565 | 98 | 0 | 2 |
| Never | 88 | 84 | 0 | 16 |
| Noticed how many dated products: | | | | |
| 1 | 145 | 96 | 1 | 3 |
| 2 | 102 | 97 | 0 | 3 |
| 3 or more | 60 | 93 | 0 | 7 |
| None | 385 | 96 | 1 | 3 |
| Sorting: | | | | |
| Sort for date | 204 | 98 | 0 | 2 |
| Don't sort | 107 | 92 | 1 | 7 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 111 | 94 | 1 | 5 |
| 5-10 | 370 | 95 | 1 | 4 |
| Over 10 | 47 | 96 | 2 | 2 |

Table B-12--Question: "As far as you know, do most grocery stores have a money-back guarantee on the food they sell?"

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 1,531 | 62 | 5 | 33 |
| Men | 189 | 54 | 9 | 37 |
| Women | 1,332 | 63 | 5 | 32 |
| Age level: | | | | |
| 18-24 years of age | 173 | 47 | 17 | 36 |
| 25-34 years | 303 | 68 | 4 | 28 |
| 35-54 years | 591 | 66 | 4 | 30 |
| 55-64 years | 212 | 57 | 4 | 39 |
| 65 and over | 219 | 57 | 5 | 38 |
| Family income: | | | | |
| Under $5,000 | 279 | 59 | 8 | 33 |
| $5,000-$9,999 | 390 | 62 | 6 | 32 |
| $10,000-$14,999 | 303 | 69 | 4 | 27 |
| $15,000 and over | 187 | 64 | 6 | 30 |
| Level of education: | | | | |
| High school not completed | 411 | 62 | 4 | 34 |
| High school graduate | 585 | 61 | 7 | 32 |
| Attended college | 259 | 64 | 5 | 31 |
| College graduate | 223 | 64 | 6 | 30 |
| Size of household: | | | | |
| 1 person | 137 | 53 | 8 | 39 |
| 2-4 persons | 990 | 60 | 5 | 35 |
| 5 or more persons | 384 | 69 | 5 | 26 |
| Region where respondent lived: | | | | |
| East | 357 | 56 | 7 | 37 |
| Midwest | 441 | 65 | 4 | 31 |
| South | 477 | 63 | 5 | 32 |
| West | 256 | 61 | 6 | 33 |
| Where respondent lived: | | | | |
| Large city | 289 | 53 | 7 | 40 |
| Smaller city | 259 | 63 | 6 | 31 |
| Suburb | 307 | 67 | 5 | 28 |
| Small town, rural | 646 | 63 | 4 | 33 |
| Age of refrigerator in household: | | | | |
| 3 years or less | 516 | 61 | 9 | 30 |
| 4-5 years | 312 | 60 | 5 | 35 |
| 6-10 years | 375 | 62 | 4 | 34 |
| Over 10 years | 224 | 69 | 2 | 29 |
| Where respondent shopped: | | | | |
| Supermarket | 1,189 | 61 | 6 | 33 |
| Neighborhood store | 278 | 64 | 4 | 32 |
| Other | 64 | 62 | 8 | 30 |

Continued

Table B-12--Question: "As far as you know, do most grocery stores have a money-back guarantee on the food they sell?"--Continued

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 101 | 54 | 6 | 40 |
| Chain 2 | 79 | 75 | 2 | 23 |
| Chain 3 | 98 | 64 | 2 | 34 |
| Chain 4 | 42 | 50 | 0 | 50 |
| Other supermarkets | 937 | 60 | 7 | 33 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 819 | 62 | 4 | 34 |
| Fairly satisfied | 599 | 61 | 6 | 33 |
| Not satisfied | 107 | 64 | 10 | 26 |
| How often food bought was spoiled: | | | | |
| Often | 97 | 57 | 13 | 30 |
| Hardly ever | 924 | 62 | 6 | 32 |
| Never | 508 | 61 | 4 | 35 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 65 | 5 | 30 |
| 2 | 207 | 67 | 5 | 28 |
| 3 or more | 118 | 65 | 8 | 27 |
| None | 908 | 59 | 5 | 36 |
| Sorting: | | | | |
| Sort for date | 387 | 66 | 5 | 29 |
| Don't sort | 236 | 64 | 6 | 30 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 234 | 56 | 6 | 38 |
| 5-10 | 799 | 65 | 5 | 30 |
| Over 10 | 89 | 55 | 16 | 29 |

Table B-13--Question: "As far as you know, do most food manufacturers have a money-back guarantee on the food they sell?"

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 1,531 | 43 | 5 | 52 |
| Men | 189 | 34 | 8 | 58 |
| Women | 1,332 | 45 | 5 | 50 |
| Age level: | | | | |
| 18-24 years of age | 173 | 39 | 12 | 49 |
| 25-34 years | 303 | 46 | 6 | 48 |
| 35-54 years | 591 | 46 | 5 | 49 |
| 55-64 years | 212 | 44 | 2 | 54 |
| 65 and over | 219 | 38 | 4 | 58 |
| Family income: | | | | |
| Under $5,000 | 279 | 45 | 5 | 50 |
| $5,000-$9,999 | 390 | 48 | 5 | 47 |
| $10,000-$14,999 | 303 | 42 | 8 | 50 |
| $15,000 and over | 187 | 52 | 3 | 45 |
| Level of education: | | | | |
| High school not completed | 411 | 45 | 4 | 51 |
| High school graduate | 585 | 46 | 6 | 48 |
| Attended college | 259 | 42 | 6 | 52 |
| College graduate | 223 | 37 | 6 | 57 |
| Size of household: | | | | |
| 1 person | 137 | 40 | 7 | 53 |
| 2-4 persons | 990 | 43 | 5 | 52 |
| 5 or more persons | 384 | 46 | 6 | 48 |
| Region where respondent lived: | | | | |
| East | 357 | 42 | 8 | 50 |
| Midwest | 441 | 46 | 4 | 50 |
| South | 477 | 45 | 4 | 51 |
| West | 256 | 37 | 6 | 57 |
| Where respondent lived: | | | | |
| Large city | 289 | 42 | 7 | 51 |
| Smaller city | 259 | 39 | 8 | 53 |
| Suburb | 307 | 46 | 4 | 50 |
| Small town, rural | 646 | 45 | 4 | 51 |
| Age of refrigerator in household: | | | | |
| 3 years or less | 516 | 46 | 5 | 49 |
| 4-5 Years | 312 | 42 | 6 | 52 |
| 6-10 Years | 375 | 42 | 6 | 52 |
| Over 10 Years | 224 | 44 | 4 | 52 |
| Where respondent shopped: | | | | |
| Supermarket | 1,189 | 42 | 6 | 52 |
| Neighborhood store | 278 | 47 | 5 | 48 |
| Other | 64 | 44 | 6 | 50 |

Continued

Table B-13--Question: "As far as you know, do most food manufacturers have a money-back guarantee on the food they sell?"--Continued

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 101 | 40 | 8 | 52 |
| Chain 2 | 79 | 40 | 3 | 67 |
| Chain 3 | 98 | 36 | 3 | 61 |
| Chain 4 | 42 | 38 | 2 | 60 |
| Other supermarkets | 937 | 44 | 6 | 50 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 819 | 46 | 4 | 50 |
| Fairly satisfied | 599 | 41 | 6 | 53 |
| Not satisfied | 107 | 41 | 9 | 50 |
| How often food bought was spoiled: | | | | |
| Often | 97 | 48 | 7 | 45 |
| Hardly ever | 924 | 43 | 6 | 51 |
| Never | 508 | 43 | 4 | 53 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 45 | 5 | 50 |
| 2 | 207 | 44 | 5 | 51 |
| 3 or more | 118 | 44 | 8 | 48 |
| None | 908 | 43 | 5 | 52 |
| Sorting: | | | | |
| Sort for date | 387 | 45 | 7 | 48 |
| Don't sort | 236 | 42 | 3 | 55 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 234 | 40 | 5 | 55 |
| 5-10 | 799 | 45 | 5 | 50 |
| Over 10 | 89 | 38 | 10 | 52 |

Table B-14--Question: "Some grocery stores and food manufacturers have been putting a date on certain food products, such as refrigerated doughs, to tell the shopper how fresh they are. Have you noticed any other dated food products in your store or not?"

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 1,531 | 41 | 55 | 4 |
| Men | 189 | 27 | 65 | 8 |
| Women | 1,332 | 42 | 54 | 4 |
| Age level: | | | | |
| 18-24 years of age | 173 | 47 | 48 | 5 |
| 25-34 years | 303 | 52 | 46 | 2 |
| 35-54 years | 591 | 42 | 54 | 4 |
| 55-64 years | 212 | 35 | 59 | 6 |
| 65 and over | 219 | 21 | 72 | 7 |
| Family income: | | | | |
| Under $5,000 | 279 | 33 | 62 | 5 |
| $5,000-$9,999 | 390 | 43 | 53 | 4 |
| $10,000-$14,999 | 303 | 46 | 50 | 4 |
| $15,000 and over | 187 | 51 | 45 | 4 |
| Level of education: | | | | |
| High school not completed | 411 | 33 | 62 | 5 |
| High school graduate | 585 | 43 | 53 | 4 |
| Attended college | 259 | 47 | 49 | 4 |
| College graduate | 223 | 47 | 49 | 4 |
| Size of household: | | | | |
| 1 person | 137 | 24 | 68 | 8 |
| 2-4 persons | 990 | 40 | 55 | 5 |
| 5 or more persons | 384 | 48 | 49 | 3 |
| Region where respondent lived: | | | | |
| East | 357 | 42 | 55 | 3 |
| Midwest | 441 | 38 | 58 | 4 |
| South | 477 | 39 | 55 | 6 |
| West | 256 | 47 | 48 | 5 |
| Where respondent lived: | | | | |
| Large city | 289 | 39 | 55 | 6 |
| Smaller city | 259 | 41 | 54 | 5 |
| Suburb | 307 | 49 | 48 | 3 |
| Small town, rural | 646 | 38 | 57 | 5 |
| Age of refrigerator in household: | | | | |
| 3 years or less | 516 | 41 | 55 | 4 |
| 4-5 years | 312 | 39 | 57 | 4 |
| 6-10 years | 375 | 40 | 54 | 6 |
| Over 10 years | 224 | 45 | 52 | 3 |
| Where respondent shopped: | | | | |
| Supermarket | 1,189 | 42 | 53 | 5 |
| Neighborhood store | 278 | 34 | 62 | 4 |
| Other | 64 | 36 | 59 | 5 |



Continued

Table B-14--Question: "Some grocery stores and food manufacturers have been putting a date on certain food products, such as refrigerated doughs, to tell the shopper how fresh they are. Have you noticed any other dated food products in your store or not?"--Continued

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 101 | 45 | 51 | 4 |
| Chain 2 | 79 | 40 | 56 | 4 |
| Chain 3 | 98 | 47 | 48 | 5 |
| Chain 4 | 42 | 33 | 60 | 7 |
| Other supermarkets | 937 | 42 | 53 | 5 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 819 | 38 | 57 | 5 |
| Fairly satisfied | 599 | 43 | 53 | 4 |
| Not satisfied | 107 | 46 | 49 | 5 |
| How often food bought was spoiled: | | | | |
| Often | 97 | 40 | 57 | 3 |
| Hardly ever | 924 | 45 | 51 | 4 |
| Never | 508 | 33 | 61 | 6 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 100 | 0 | 0 |
| 2 | 207 | 100 | 0 | 0 |
| 3 or more | 118 | 100 | 0 | 0 |
| None | 908 | 0 | 92 | 8 |
| Sorting: | | | | |
| Sort for date | 387 | 100 | 0 | 0 |
| Don't sort | 236 | 100 | 0 | 0 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 234 | 34 | 60 | 6 |
| 5-10 | 799 | 44 | 53 | 3 |
| Over 10 | 89 | 61 | 35 | 4 |

Table B-15--Question: "On which food products have you noticed a date?" (Asked only of those who have noticed a date on food products)

| Item | Total responding | Percent asked this question | Meat, poultry, or fish | Processed (cooked) meat | Milk | Cottage cheese | Sour cream | Other dairy products | Bread | Rolls | Other baked goods | Snack items | Other | Don't know; no answer |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | | | | | | | | |
| Total shoppers | 1,531 | 41 | 5 | 0 | 17 | 7 | 2 | 14 | 7 | 5 | 4 | 1 | 11 | 1 |
| Men | 189 | 27 | 3 | 1 | 15 | 4 | 3 | 8 | 7 | 2 | 3 | 1 | 6 | 0 |
| Women | 1,332 | 42 | 5 | 0 | 17 | 7 | 2 | 14 | 7 | 6 | 4 | 1 | 11 | 1 |
| Age level: | | | | | | | | | | | | | | |
| 18-24 years of age | 173 | 47 | 5 | 1 | 24 | 6 | 3 | 14 | 9 | 3 | 5 | 1 | 13 | 0 |
| 25-34 years | 303 | 52 | 6 | 0 | 22 | 8 | 3 | 19 | 10 | 7 | 5 | 2 | 13 | 1 |
| 35-54 years | 591 | 43 | 6 | 1 | 16 | 7 | 2 | 14 | 8 | 6 | 4 | 1 | 12 | 1 |
| 55-64 years | 212 | 35 | 3 | 0 | 17 | 10 | 2 | 12 | 5 | 6 | 3 | 0 | 7 | 0 |
| 65 and over | 219 | 21 | 3 | 0 | 8 | 4 | 1 | 6 | 1 | 3 | 3 | 0 | 5 | 2 |
| Family income: | | | | | | | | | | | | | | |
| Under $5,000 | 279 | 33 | 4 | 0 | 12 | 5 | 1 | 9 | 5 | 4 | 1 | 0 | 9 | 1 |
| $5,000-$9,999 | 390 | 43 | 4 | 0 | 17 | 7 | 2 | 14 | 6 | 5 | 4 | 1 | 11 | 1 |
| $10,000-$14,999 | 303 | 46 | 7 | 0 | 22 | 10 | 3 | 19 | 8 | 6 | 8 | 1 | 12 | 1 |
| $15,000 and over | 187 | 51 | 7 | 0 | 28 | 11 | 3 | 19 | 12 | 7 | 2 | 1 | 9 | 1 |
| Level of education: | | | | | | | | | | | | | | |
| High school not completed | 411 | 33 | 4 | 0 | 10 | 5 | 1 | 8 | 4 | 6 | 3 | 1 | 10 | 1 |
| High school graduate | 585 | 43 | 6 | 1 | 19 | 7 | 2 | 15 | 8 | 5 | 4 | 1 | 11 | 1 |
| Attended college | 259 | 47 | 4 | 0 | 23 | 7 | 2 | 21 | 8 | 5 | 6 | 0 | 13 | 2 |
| College graduate | 223 | 47 | 7 | 0 | 22 | 12 | 4 | 16 | 8 | 6 | 3 | 1 | 10 | 1 |
| Size of household | | | | | | | | | | | | | | |
| 1 person | 137 | 24 | 4 | 0 | 12 | 5 | 2 | 11 | 4 | 4 | 3 | 1 | 3 | 0 |
| 2-4 persons | 990 | 40 | 5 | 0 | 17 | 7 | 2 | 14 | 6 | 5 | 3 | 1 | 11 | 1 |
| 5 or more persons | 384 | 48 | 6 | 0 | 19 | 8 | 2 | 15 | 10 | 6 | 5 | 1 | 14 | 2 |
| Region where respondent lived: | | | | | | | | | | | | | | |
| East | 357 | 42 | 7 | 1 | 24 | 10 | 3 | 18 | 8 | 3 | 3 | 1 | 8 | 0 |
| Midwest | 441 | 38 | 4 | 0 | 11 | 7 | 2 | 11 | 5 | 7 | 5 | 1 | 12 | 1 |
| South | 477 | 39 | 5 | 0 | 15 | 3 | 1 | 10 | 7 | 7 | 4 | 0 | 13 | 1 |
| West | 256 | 47 | 6 | 0 | 22 | 11 | 4 | 18 | 9 | 4 | 2 | 2 | 7 | 1 |
| Where respondent lived: | | | | | | | | | | | | | | |
| Large city | 289 | 39 | 6 | 0 | 19 | 6 | 2 | 12 | 7 | 5 | 3 | 1 | 8 | 0 |
| Smaller city | 259 | 41 | 2 | 0 | 16 | 7 | 1 | 15 | 8 | 6 | 3 | 2 | 12 | 0 |
| Suburb | 307 | 49 | 7 | 1 | 23 | 9 | 4 | 19 | 7 | 5 | 6 | 1 | 11 | 2 |
| Small town, rural | 646 | 38 | 5 | 0 | 14 | 7 | 2 | 12 | 7 | 5 | 3 | 1 | 11 | 1 |
| Age of refrig. in household: | | | | | | | | | | | | | | |
| 3 years or less | 516 | 41 | 5 | 0 | 16 | 8 | 3 | 14 | 7 | 5 | 5 | 1 | 12 | 1 |
| 4-5 years | 312 | 39 | 4 | 0 | 17 | 7 | 1 | 14 | 6 | 6 | 2 | 1 | 9 | 1 |
| 6-10 years | 375 | 40 | 6 | 1 | 18 | 7 | 3 | 14 | 8 | 6 | 5 | 1 | 10 | 1 |
| Over 10 years | 224 | 45 | 6 | 0 | 18 | 7 | 1 | 15 | 8 | 6 | 5 | 0 | 9 | 2 |
| Where respondent shopped: | | | | | | | | | | | | | | |
| Supermarket | 1,189 | 43 | 6 | 0 | 18 | 8 | 2 | 14 | 7 | 5 | 4 | 1 | 11 | 1 |
| Neighborhood store | 278 | 34 | 3 | 0 | 12 | 5 | 1 | 9 | 6 | 5 | 5 | 0 | 10 | 1 |
| Other | 64 | 36 | 2 | 0 | 19 | 3 | 2 | 20 | 5 | 6 | 5 | 0 | 8 | 0 |

Continued

Table B-15--Question: "On which food products have you noticed a date?" (Asked only of those who have noticed a date on food products)--Con.

| Item | Total responding | Percent asked this question | Meat, poultry, or fish | Processed (cooked) meat | Milk | Cottage cheese | Sour cream | Other dairy products | Bread | Rolls | Other baked goods | Snack items | Other | Don't know, no answer |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | | | | | | | | |
| Chain shopped: | | | | | | | | | | | | | | |
| Chain 1 | 101 | 45 | 6 | 1 | 16 | 7 | 2 | 16 | 9 | 8 | 8 | 0 | 8 | 1 |
| Chain 2 | 79 | 41 | 5 | 1 | 10 | 5 | 0 | 16 | 4 | 9 | 5 | 1 | 11 | 0 |
| Chain 3 | 98 | 47 | 5 | 0 | 24 | 11 | 2 | 19 | 6 | 5 | 3 | 0 | 10 | 0 |
| Chain 4 | 42 | 33 | 5 | 0 | 12 | 2 | 2 | 5 | 5 | 5 | 5 | 0 | 19 | 0 |
| Other supermarkets | 937 | 42 | 6 | 0 | 19 | 7 | 2 | 14 | 8 | 5 | 3 | 1 | 11 | 1 |
| Satisfaction with freshness: | | | | | | | | | | | | | | |
| Very satisfied | 819 | 38 | 6 | 0 | 16 | 6 | 2 | 12 | 7 | 5 | 4 | 1 | 10 | 1 |
| Fairly satisfied | 599 | 44 | 4 | 0 | 20 | 8 | 2 | 15 | 7 | 5 | 3 | 1 | 12 | 1 |
| Not satisfied | 107 | 46 | 7 | 1 | 16 | 5 | 2 | 20 | 6 | 6 | 5 | 1 | 9 | 2 |
| How often food was spoiled: | | | | | | | | | | | | | | |
| Often | 97 | 40 | 7 | 1 | 19 | 3 | 0 | 14 | 6 | 7 | 1 | 0 | 10 | 0 |
| Hardly ever | 924 | 45 | 5 | 0 | 20 | 8 | 2 | 15 | 8 | 6 | 4 | 1 | 12 | 1 |
| Never | 508 | 33 | 5 | 0 | 12 | 6 | 2 | 11 | 5 | 5 | 4 | 1 | 9 | 1 |
| Noticed how many dated prod.: | | | | | | | | | | | | | | |
| 1 | 283 | 100 | 8 | 0 | 24 | 5 | 0 | 15 | 6 | 10 | 4 | 1 | 27 | 0 |
| 2 | 207 | 100 | 13 | 1 | 51 | 17 | 3 | 44 | 22 | 13 | 11 | 3 | 21 | 0 |
| 3 or more | 118 | 100 | 24 | 2 | 74 | 48 | 20 | 64 | 38 | 24 | 24 | 4 | 35 | 0 |
| None | 908 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sorting: | | | | | | | | | | | | | | |
| Sort for date | 387 | 100 | 14 | 1 | 45 | 20 | 6 | 36 | 17 | 13 | 10 | 1 | 26 | 2 |
| Don't sort | 236 | 100 | 10 | 1 | 37 | 12 | 3 | 31 | 17 | 14 | 10 | 3 | 26 | 4 |
| Number of counters in store usually shopped: | | | | | | | | | | | | | | |
| Less than 5 | 234 | 34 | 3 | 1 | 12 | 6 | 2 | 8 | 6 | 9 | 3 | 0 | 12 | 1 |
| 5-10 | 799 | 44 | 6 | 0 | 19 | 8 | 2 | 17 | 8 | 5 | 4 | 1 | 10 | 1 |
| Over 10 | 89 | 61 | 12 | 0 | 31 | 8 | 4 | 17 | 12 | 7 | 9 | 2 | 16 | 0 |

Table B-16--Question: "What do you think the date means?" (Asked only of those who have noticed a date on food products)

| Item | Total responding | Date product was packed or processed | Date product was delivered to store or put on shelf | Last date product should be sold | Last date product should be used | Other | Don't know; no answer |
|---|---|---|---|---|---|---|---|
| | No. | Percent | | | | | |
| Total shoppers | 628 | 14 | 10 | 29 | 44 | 1 | 2 |
| Men | 51 | 31 | 13 | 29 | 25 | 1 | 1 |
| Women | 559 | 13 | 9 | 28 | 47 | 0 | 2 |
| Age level: | | | | | | | |
| 18-24 years of age | 81 | 16 | 16 | 24 | 43 | 0 | 1 |
| 25-34 years | 158 | 11 | 9 | 28 | 47 | 1 | 3 |
| 35-54 years | 254 | 13 | 8 | 32 | 41 | 1 | 4 |
| 55-64 years | 74 | 15 | 7 | 27 | 49 | 0 | 1 |
| 65 and over | 46 | 22 | 12 | 23 | 31 | 0 | 12 |
| Family income: | | | | | | | |
| Under $5,000 | 92 | 15 | 12 | 27 | 42 | 2 | 2 |
| $5,000-$9,999 | 168 | 18 | 11 | 22 | 43 | 1 | 4 |
| $10,000-$14,999 | 139 | 12 | 11 | 33 | 41 | 0 | 0 |
| $15,000 and over | 95 | 13 | 11 | 38 | 38 | 0 | 0 |
| Level of education: | | | | | | | |
| High school not completed | 136 | 19 | 10 | 19 | 49 | 0 | 3 |
| High school graduate | 252 | 14 | 9 | 30 | 44 | 1 | 3 |
| Attended college | 122 | 13 | 13 | 27 | 45 | 0 | 2 |
| College graduate | 109 | 12 | 8 | 37 | 42 | 0 | 1 |
| Size of household: | | | | | | | |
| 1 person | 33 | 7 | 24 | 29 | 38 | 0 | 2 |
| 2-4 persons | 396 | 10 | 10 | 29 | 45 | 0 | 1 |
| 5 or more persons | 184 | 16 | 7 | 22 | 48 | 0 | 1 |
| Region where respondent lived: | | | | | | | |
| East | 150 | 18 | 9 | 34 | 34 | 1 | 3 |
| Midwest | 168 | 12 | 7 | 21 | 53 | 0 | 7 |
| South | 186 | 16 | 14 | 21 | 47 | 2 | 2 |
| West | 120 | 10 | 8 | 42 | 38 | 1 | 1 |
| Where respondent lived: | | | | | | | |
| Large city | 113 | 16 | 13 | 24 | 47 | 0 | 0 |
| Smaller city | 106 | 12 | 12 | 33 | 40 | 1 | 4 |
| Suburb | 150 | 15 | 9 | 34 | 36 | 1 | 3 |
| Small town, rural | 245 | 14 | 10 | 25 | 49 | 1 | 2 |

Continued

Table B-16--Question: "What do you think the date means?" (Asked only of those who have noticed a date on food products)--Continued

| Item | Total responding | Date product was packed or processed | Date product was delivered to store or put on shelf | Last date product should be sold | Last date product should be used | Other | Don't know; no answer |
|---|---|---|---|---|---|---|---|
| | No. | Percent | | | | | |
| Age of refrigerator in household: | | | | | | | |
| 3 years or less | 212 | 14 | 14 | 23 | 48 | 1 | 1 |
| 4-5 years | 122 | 12 | 9 | 32 | 43 | 1 | 2 |
| 6-10 years | 150 | 14 | 7 | 32 | 44 | 1 | 2 |
| Over 10 years | 101 | 15 | 11 | 33 | 40 | 0 | 1 |
| Where respondent shopped: | | | | | | | |
| Supermarket | 511 | 14 | 11 | 29 | 42 | 2 | 2 |
| Neighborhood store | 95 | 16 | 10 | 21 | 49 | 2 | 2 |
| Other | 23 | 16 | 8 | 11 | 60 | 1 | 1 |
| Chain shopped: | | | | | | | |
| Chain 1 | 45 | 17 | 6 | 35 | 37 | 2 | 3 |
| Chain 2 | 32 | 19 | 7 | 26 | 45 | 1 | 2 |
| Chain 3 | 46 | 13 | 0 | 36 | 47 | 1 | 3 |
| Chain 4 | 14 | 25 | 5 | 10 | 60 | 0 | 0 |
| Other supermarkets | 394 | 14 | 12 | 28 | 42 | 0 | 4 |
| Satisfaction with food freshness: | | | | | | | |
| Very satisfied | 311 | 15 | 10 | 31 | 41 | 1 | 2 |
| Fairly satisfied | 264 | 13 | 10 | 26 | 47 | 1 | 3 |
| Not satisfied | 49 | 14 | 11 | 30 | 44 | 1 | 2 |
| How often food bought was spoiled: | | | | | | | |
| Often | 39 | 16 | 18 | 18 | 44 | 4 | 0 |
| Hardly ever | 416 | 12 | 8 | 33 | 46 | 0 | 1 |
| Never | 168 | 17 | 11 | 23 | 44 | 0 | 3 |
| Noticed how many dated products: | | | | | | | |
| 1 | 283 | 19 | 8 | 24 | 44 | 1 | 4 |
| 2 | 207 | 10 | 10 | 29 | 50 | 1 | 1 |
| 3 or more | 118 | 11 | 14 | 38 | 36 | 1 | 0 |
| None | -- | 0 | 0 | 0 | 0 | 0 | 0 |
| Sorting: | | | | | | | |
| Sort for date | 387 | 13 | 10 | 34 | 40 | 1 | 2 |
| Don't sort | 236 | 18 | 11 | 19 | 50 | 1 | 1 |
| Number of counters in store usually shopped: | | | | | | | |
| Less than 5 | 80 | 8 | 11 | 24 | 57 | 0 | 1 |
| 5-10 | 352 | 14 | 10 | 31 | 41 | 1 | 3 |
| Over 10 | 54 | 16 | 11 | 37 | 34 | 1 | 1 |

Table B-17--Question: "On those items that are marked with a date, do you sometimes sort through packages looking for the freshest item or not?" (Asked only of those who have noticed a date on food products)

| Item | Total responding | Yes | No | No answer |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 628 | 61 | 38 | 1 |
| Men | 51 | 59 | 41 | 0 |
| Women | 559 | 62 | 39 | 1 |
| Age level: | | | | |
| 18-24 years of age | 81 | 64 | 36 | 0 |
| 25-34 years | 158 | 62 | 38 | 0 |
| 35-54 years | 254 | 60 | 39 | 1 |
| 55-64 years | 74 | 63 | 37 | 0 |
| 65 and over | 46 | 57 | 31 | 2 |
| Family income: | | | | |
| Under $5,000 | 92 | 52 | 47 | 1 |
| $5,000-$9,999 | 168 | 60 | 39 | 1 |
| $10,000-$14,999 | 139 | 63 | 37 | 0 |
| $15,000 and over | 95 | 63 | 35 | 2 |
| Level of education: | | | | |
| High school not completed | 136 | 61 | 38 | 1 |
| High school graduate | 252 | 63 | 36 | 1 |
| Attended college | 122 | 60 | 38 | 2 |
| College graduate | 109 | 72 | 28 | 0 |
| Size of household: | | | | |
| 1 person | 33 | 62 | 36 | 2 |
| 2-4 persons | 396 | 63 | 36 | 1 |
| 5 or more persons | 184 | 60 | 39 | 1 |
| Region where respondent lived: | | | | |
| East | 150 | 69 | 30 | 1 |
| Midwest | 168 | 53 | 47 | 0 |
| South | 186 | 67 | 32 | 1 |
| West | 120 | 59 | 39 | 2 |
| Where respondent lived: | | | | |
| Large city | 113 | 69 | 30 | 1 |
| Smaller city | 106 | 57 | 43 | 0 |
| Suburb | 150 | 61 | 38 | 1 |
| Small town, rural | 245 | 61 | 38 | 1 |
| Age of refrigerator in household: | | | | |
| 3 years or less | 212 | 61 | 38 | 1 |
| 4-5 years | 122 | 67 | 33 | 0 |
| 6-10 years | 150 | 63 | 37 | 0 |
| Over 10 years | 245 | 62 | 36 | 2 |
| Where respondent shopped: | | | | |
| Supermarket | 511 | 63 | 36 | 1 |
| Neighborhood store | 95 | 58 | 42 | 0 |
| Other | 23 | 44 | 53 | 3 |

Continued

Table B-17--Question: "On those items that are marked with a date, do you sometimes sort through packages looking for the freshest item or not?" (Asked only of those who have noticed a date on food products)--Continued

| | Total responding | Yes | No | No answer |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 45 | 64 | 36 | 0 |
| Chain 2 | 32 | 50 | 50 | 0 |
| Chain 3 | 46 | 68 | 32 | 0 |
| Chain 4 | 14 | 73 | 27 | 0 |
| Other supermarkets | 394 | 62 | 37 | 1 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 311 | 58 | 41 | 1 |
| Fairly satisfied | 264 | 66 | 33 | 1 |
| Not satisfied | 49 | 63 | 35 | 2 |
| How often food bought was spoiled: | | | | |
| Often | 39 | 85 | 15 | 0 |
| Hardly ever | 416 | 62 | 37 | 1 |
| Never | 168 | 55 | 44 | 1 |
| Noticed how many dated products: | | | | |
| 1 | 283 | 58 | 40 | 2 |
| 2 | 207 | 65 | 35 | 0 |
| 3 or more | 118 | 70 | 30 | 0 |
| None | | 0 | 0 | 0 |
| Sorting: | | | | |
| Sort for date | 387 | 100 | 0 | 0 |
| Don't sort | 236 | 0 | 98 | 2 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 80 | 59 | 40 | 1 |
| 5-10 | 352 | 64 | 35 | 1 |
| Over 10 | 54 | 69 | 31 | 0 |

Table B-18--Question: "When you sort through items with a date on them, do you usually find some that are fresher than others or not?" (Asked only of those who have noticed a date on food products and sort through packages looking for the freshest item )

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Total shoppers | 387 | 74 | 20 | 6 |
| Men | 31 | 71 | 23 | 6 |
| Women | 349 | 74 | 20 | 6 |
| Age level: | | | | |
| 18-24 years of age | 52 | 79 | 21 | 0 |
| 25-34 years | 97 | 77 | 15 | 8 |
| 35-54 years | 156 | 76 | 18 | 6 |
| 55-64 years | 47 | 55 | 38 | 7 |
| 65 and over | 27 | 70 | 22 | 8 |
| Family income: | | | | |
| Under $5,000 | 48 | 73 | 19 | 8 |
| $5,000-$9,999 | 101 | 68 | 28 | 4 |
| $10,000-$14,999 | 89 | 84 | 12 | 4 |
| $15,000 and over | 59 | 73 | 19 | 8 |
| Level of education: | | | | |
| High school not completed | 81 | 75 | 19 | 6 |
| High school graduate | 151 | 70 | 23 | 7 |
| Attended college | 72 | 75 | 22 | 3 |
| College graduate | 76 | 80 | 15 | 5 |
| Size of household: | | | | |
| 1 person | 20 | 80 | 15 | 5 |
| 2-4 persons | 252 | 72 | 23 | 5 |
| 5 or more persons | 110 | 77 | 16 | 7 |
| Region where respondent lived: | | | | |
| East | 105 | 71 | 24 | 5 |
| Midwest | 88 | 78 | 17 | 5 |
| South | 124 | 78 | 17 | 5 |
| West | 70 | 63 | 26 | 11 |
| Where respondent lived: | | | | |
| Large city | 78 | 77 | 19 | 4 |
| Smaller city | 61 | 76 | 21 | 3 |
| Suburb | 93 | 70 | 21 | 9 |
| Small town, rural | 147 | 76 | 18 | 6 |
| Age of refrig. in household: | | | | |
| 3 years or less | 129 | 74 | 17 | 9 |
| 4-5 years | 80 | 79 | 14 | 7 |
| 6-10 years | 93 | 69 | 30 | 1 |
| Over 10 years | 63 | 76 | 18 | 6 |
| Where respondent shopped: | | | | |
| Supermarket | 323 | 71 | 23 | 6 |
| Neighborhood store | 54 | 87 | 9 | 4 |
| Other | 10 | 70 | 10 | 20 |

Continued

Table B-18--Question: When you sort through items with a date on them, do you usually find some that are fresher than others or not?" (Asked only of those who have noticed a date on food products and sort through packages looking for the freshest item )--Continued

| Item | Total responding | Yes | No | Don't know |
|---|---|---|---|---|
| | Number | Percent | | |
| Chain shopped: | | | | |
| Chain 1 | 29 | 76 | 17 | 7 |
| Chain 2 | 16 | 69 | 25 | 6 |
| Chain 3 | 31 | 68 | 19 | 13 |
| Chain 4 | 10 | 90 | 10 | 0 |
| Other supermarkets | 247 | 71 | 23 | 6 |
| Satisfaction with food freshness: | | | | |
| Very satisfied | 184 | 67 | 27 | 6 |
| Fairly satisfied | 171 | 78 | 16 | 6 |
| Not satisfied | 31 | 87 | 10 | 3 |
| How often food bought was spoiled: | | | | |
| Often | 33 | 82 | 12 | 6 |
| Hardly ever | 263 | 74 | 20 | 6 |
| Never | 91 | 69 | 25 | 6 |
| Noticed how many dated products: | | | | |
| 1 | 163 | 73 | 22 | 5 |
| 2 | 135 | 72 | 19 | 9 |
| 3 or more | 83 | 76 | 22 | 2 |
| None | 0 | 0 | 0 | 0 |
| Sorting: | | | | |
| Sort for date | 387 | 74 | 20 | 6 |
| Don't sort | 0 | 0 | 0 | 0 |
| Number of counters in store usually shopped: | | | | |
| Less than 5 | 47 | 70 | 24 | 6 |
| 5-10 | 226 | 75 | 20 | 5 |
| Over 10 | 37 | 59 | 30 | 11 |

Table B-19--Question: "There are various dates that a store could put on packages; which date do you think would be most helpful to you?"

| Item | Total respondents | Date product was packed | Date product was delivered | Last date product should be sold | Last date product should be used | Other | No opinion |
|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | |
| Total shoppers | 1,531 | 18 | 11 | 12 | 49 | 2 | 9 |
| Men | 189 | 20 | 12 | 16 | 39 | 3 | 13 |
| Women | 1,332 | 18 | 11 | 12 | 50 | 2 | 8 |
| Age level: | | | | | | | |
| 18-24 years of age | 173 | 22 | 13 | 9 | 53 | 2 | 2 |
| 25-34 years | 303 | 19 | 10 | 11 | 58 | 1 | 4 |
| 35-54 years | 591 | 19 | 11 | 13 | 49 | 1 | 7 |
| 55-64 years | 212 | 19 | 9 | 20 | 43 | 2 | 9 |
| 65 and over | 219 | 13 | 13 | 8 | 39 | 2 | 26 |
| Family income: | | | | | | | |
| Under $5,000 | 279 | 17 | 12 | 14 | 44 | 1 | 13 |
| $5,000-$9,999 | 390 | 17 | 12 | 14 | 51 | 1 | 6 |
| $10,000-$14,999 | 303 | 20 | 9 | 11 | 56 | 1 | 3 |
| $15,000 and over | 187 | 22 | 8 | 13 | 51 | 3 | 4 |
| Level of education: | | | | | | | |
| High school not completed | 411 | 17 | 13 | 12 | 41 | 2 | 17 |
| High school graduate | 585 | 20 | 11 | 12 | 51 | 1 | 6 |
| Attended college | 259 | 21 | 8 | 13 | 54 | 2 | 3 |
| College graduate | 223 | 16 | 9 | 14 | 56 | 1 | 5 |
| Size of household: | | | | | | | |
| 1 person | 137 | 15 | 13 | 12 | 37 | 3 | 21 |
| 2-4 persons | 990 | 20 | 10 | 12 | 49 | 2 | 9 |
| 5 or more persons | 384 | 17 | 13 | 12 | 53 | 1 | 5 |
| Region where respondent lived: | | | | | | | |
| East | 357 | 21 | 11 | 14 | 43 | 1 | 11 |
| Midwest | 441 | 16 | 9 | 11 | 55 | 1 | 9 |
| South | 477 | 17 | 14 | 12 | 47 | 2 | 9 |
| West | 256 | 22 | 9 | 13 | 49 | 2 | 7 |
| Where respondent lived: | | | | | | | |
| Large city | 289 | 20 | 9 | 13 | 46 | 2 | 11 |
| Smaller city | 259 | 18 | 11 | 11 | 52 | 2 | 6 |
| Suburb | 307 | 20 | 11 | 15 | 48 | 2 | 6 |
| Small town, rural | 646 | 18 | 11 | 11 | 49 | 1 | 10 |

Continued

Table B-19--Question: "There are various dates that a store could put on packages; which date do you think would be most helpful to you?"--Continued

| Item | Total respondents | Date product was packed | Date product was delivered | Last date product should be sold | Last date product should be used | Other | No opinion |
|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | |
| Age of refrigerator in household: | | | | | | | |
| 3 years or less | 516 | 17 | 10 | 13 | 50 | 1 | 9 |
| 4-5 years | 312 | 22 | 12 | 11 | 47 | 1 | 7 |
| 6-10 years | 375 | 19 | 10 | 14 | 50 | 2 | 7 |
| Over 10 years | 224 | 17 | 12 | 12 | 46 | 2 | 13 |
| Where respondent shopped: | | | | | | | |
| Supermarket | 1,189 | 18 | 10 | 12 | 50 | 2 | 8 |
| Neighborhood store | 278 | 19 | 13 | 12 | 42 | 1 | 14 |
| Other | 64 | 19 | 14 | 9 | 46 | 6 | 6 |
| Chain shopped: | | | | | | | |
| Chain 1 | 101 | 15 | 8 | 13 | 50 | 3 | 13 |
| Chain 2 | 79 | 18 | 14 | 8 | 53 | 1 | 8 |
| Chain 3 | 98 | 23 | 8 | 11 | 51 | 1 | 7 |
| Chain 4 | 42 | 24 | 7 | 7 | 60 | 2 | 2 |
| Other supermarkets | 937 | 18 | 11 | 13 | 50 | 2 | 8 |
| Satisfaction with food freshness: | | | | | | | |
| Very satisfied | 819 | 17 | 11 | 13 | 49 | 1 | 10 |
| Fairly satisfied | 599 | 18 | 12 | 12 | 49 | 2 | 8 |
| Not satisfied | 107 | 32 | 6 | 8 | 48 | 3 | 6 |
| How often food bought was spoiled: | | | | | | | |
| Often | 97 | 27 | 11 | 7 | 45 | 4 | 7 |
| Hardly ever | 924 | 19 | 10 | 13 | 52 | 2 | 6 |
| Never | 508 | 17 | 13 | 12 | 43 | 1 | 15 |
| Noticed how many dated products: | | | | | | | |
| 1 | 283 | 17 | 11 | 11 | 58 | 2 | 3 |
| 2 | 207 | 17 | 10 | 15 | 55 | 2 | 1 |
| 3 or more | 118 | 16 | 13 | 19 | 50 | 1 | 3 |
| None | 908 | 20 | 11 | 11 | 44 | 2 | 14 |
| Sorting: | | | | | | | |
| Sort for date | 387 | 18 | 12 | 16 | 51 | 2 | 2 |
| Don't sort | 236 | 14 | 9 | 12 | 63 | 1 | 3 |
| Number of counters in usually shopped: | | | | | | | |
| Less than 5 | 234 | 20 | 13 | 8 | 49 | 2 | 10 |
| 5-10 | 799 | 19 | 10 | 14 | 51 | 2 | 5 |
| Over 10 | 89 | 15 | 11 | 16 | 54 | 1 | 3 |

## APPENDIX C--PRODUCTS OPEN DATED IN EXPERIMENT, OHIO, AUGUST-OCTOBER, 1971

### Products Open Dated

1. All random-weight meat, poultry, and fish items
2. All exact-weight meat items (wieners, lunch meat, bacon, and the like) in Hamilton stores only
3. All random-weight produce
4. All fixed-weight and fixed-count produce
5. All fluid dairy products (milk, yogurt, cottage cheese, and the like)
6. Three bakery items--20 oz. bread; pecan tea ring; pecan coffee cake